# THE ARCHITECT & BUILDING NEWS

*IN THIS ISSUE*


- COTTAGES AT CHIPSTEAD
- HOUSE AT SIDCUP, KENT
- INFORMATION DIGEST


MARCH 23, 1951 · VOL. 199 · NO. 4292 · ONE SHILLING WEEKLY

Simplicity is the keynote of good taste and the quiet dignity and charm of Walpamur Quality Paints provide the perfect setting for rooms of distinction.

THE WALPAMUR CO. LTD. • DARWEN AND LONDON

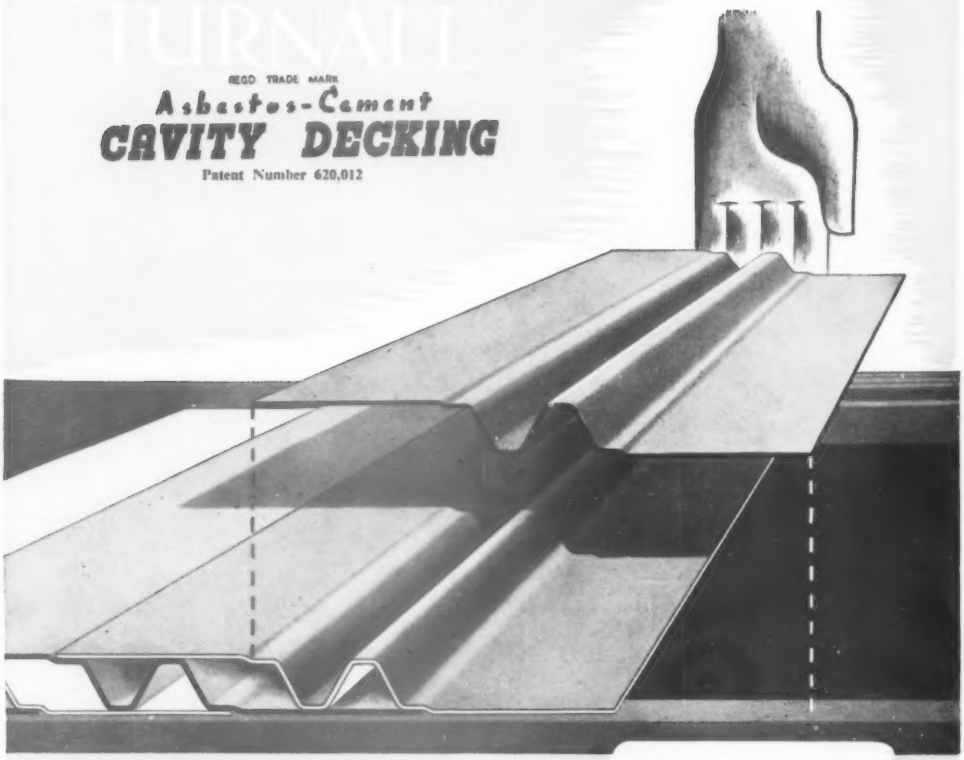
W.103

REGD. TRADE MARK

Asbestos-Cement

**CAVITY DECKING**

Patent Number 620,012



## Light weight - Dry construction

"TURNALL" Asbestos-Cement Cavity Decking is a light-weight, dry-construction unit suitable for flat roofing and has an extremely high safety factor with supports spaced up to 8′ 3″ centres. It is an efficient thermal insulator.

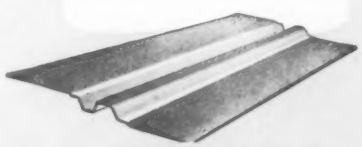
With one unit in one operation you can provide :-

1. A roofing deck.
2. A finished ceiling and
3. Efficient thermal insulation.

WRITE FOR ILLUSTRATED LITERATURE

**RESISTANCE TO IMPACT**

During tests a section of 'TURNALL' cavity decking safely withstood an impact blow of 350 ft. lb.



TURNERS ASBESTOS CEMENT CO LTD

A MEMBER OF THE TURNER & NEWALL ORGANISATION

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CD1

SPECIALISTS FOR OVER THIRTY YEARS IN RECONSTRUCTION, REPAIR AND WATERPROOFING OF

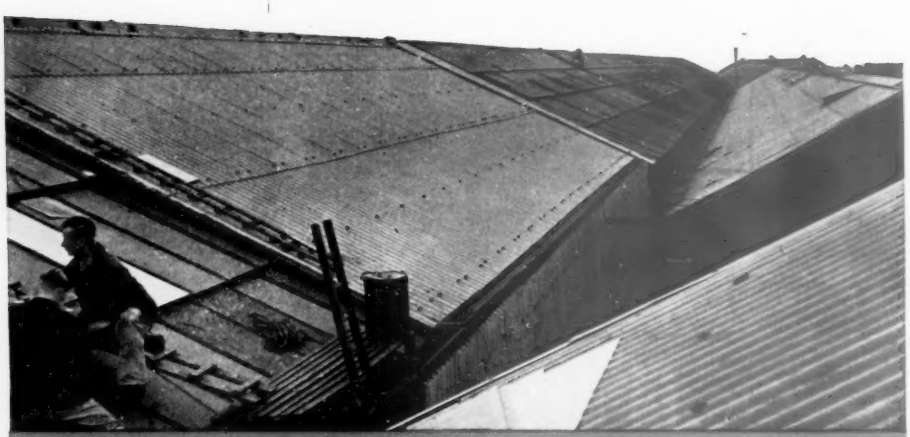
# ROOFS, GUTTERS & ROOF GLAZING

INDUSTRIAL ENGINEERING LTD. undertake at short notice, subject to the availability of supplies, the erection or replacement of asbestos or Corrugated Iron Roofing as well as the reconditioning of any type of existing industrial roof.

The MASTICON Process—developed and used exclusively by Industrial Engineering Ltd.—is recommended for the waterproofing of new roofs, as well as for prolonging the life of existing roofing. MASTICON treatment of roofing means a lasting job, defying the worst weather conditions, and unaffected by extremes of heat and cold.

*Wherever your works is situated, Industrial Engineering Ltd., maintain a permanent staff of skilled labour in the district, fully qualified to undertake any roofing contract. Their district representative will be glad to carry out a survey of your roofs without charge, and submit a complete report, together with specifications and estimates for the work required.*

ASBESTOS ROOFING
CORRUGATED IRON
GLAZED ROOFING
SLATE ROOFING
FELT ROOFING
CONCRETE & ASPHALTE
ZINC ROOFING



INDUSTRIAL ENGINEERING LTD.

*One of the Associated Companies of Kelsey Industries Ltd.*

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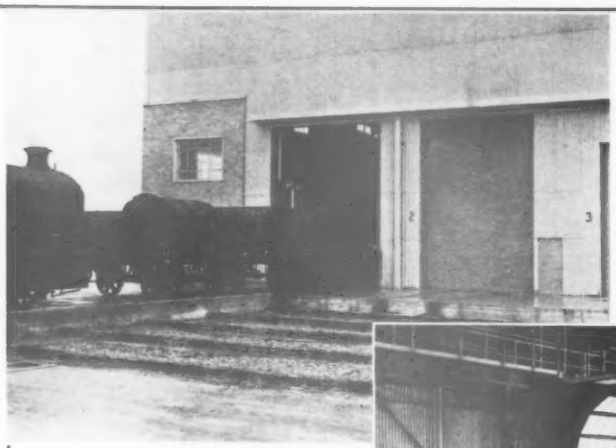
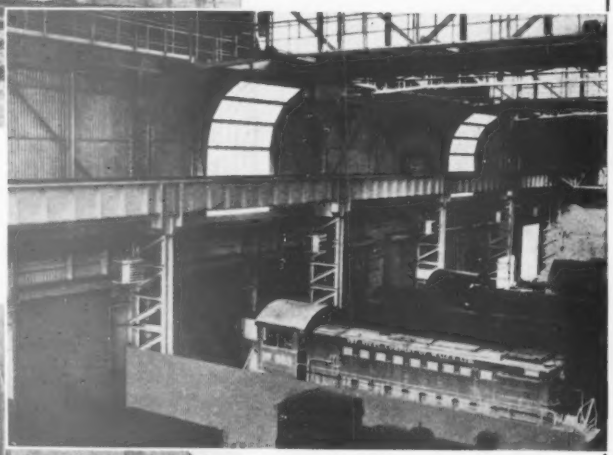
# KINNEAR PATENT STEEL ROLLING SHUTTERS

Registered KINNEAR Trade Mark



STEEL COMPANY OF WALES LIMITED

MARGAM WORKS, PORT TALBOT



Consulting Engineers: Messrs. W. S. Atkins & Partners, London.

Consulting Architects: Messrs. Sir Percy Thomas & Son, Cardiff.

Central Fitting Shop, etc., fitted with

23

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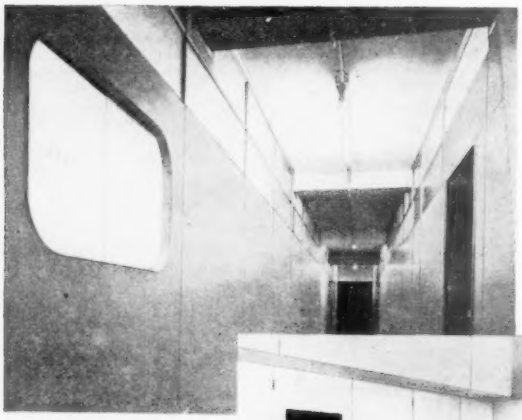
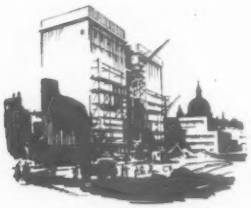
# Reconstruction of the City of London...





*New Building for*

**CITY OF LONDON REAL PROPERTY CO., LTD.**

*now completed at*

**16 ST. HELEN'S PLACE LONDON, E.C.3**

*Occupied by*

**GLEN LINE LTD.**

*6 IMPORTANT REASONS why your organisation can benefit by the use of "HOLOPLAST" MOVABLE WALLS*

- **SPACE SAVING**
  "Holoplast" Movable Walls are one third the thickness of ordinary walls—this saves space and provides greater accommodation.
- **MAINTENANCE**
  "Holoplast" Walls have a hard and beautiful finish—last longer—are not easily damaged—maintenance costs are at least halved.
- **TIME SAVING**
  "Holoplast" Walls can be built TEN TIMES quicker than ordinary walls—permitting earlier occupation.
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  "Holoplast" Walls obviate disorganisation when alterations have to be made—no dirt, dust or noise.
- **ALTERATION COSTS**
  When alterations are made "Holoplast" costs next to nothing to take down, and all material can be used again.
- **TAILOR-MADE FOR THE JOB**
  No bills for extras—the price quoted for the whole perfect job is guaranteed.

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**NO MATERIAL LICENCES REQUIRED**

*Manufactured by:* **HOLOPLAST LTD.**

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*Tel.: VICtoria 9981 & 9354-7.*
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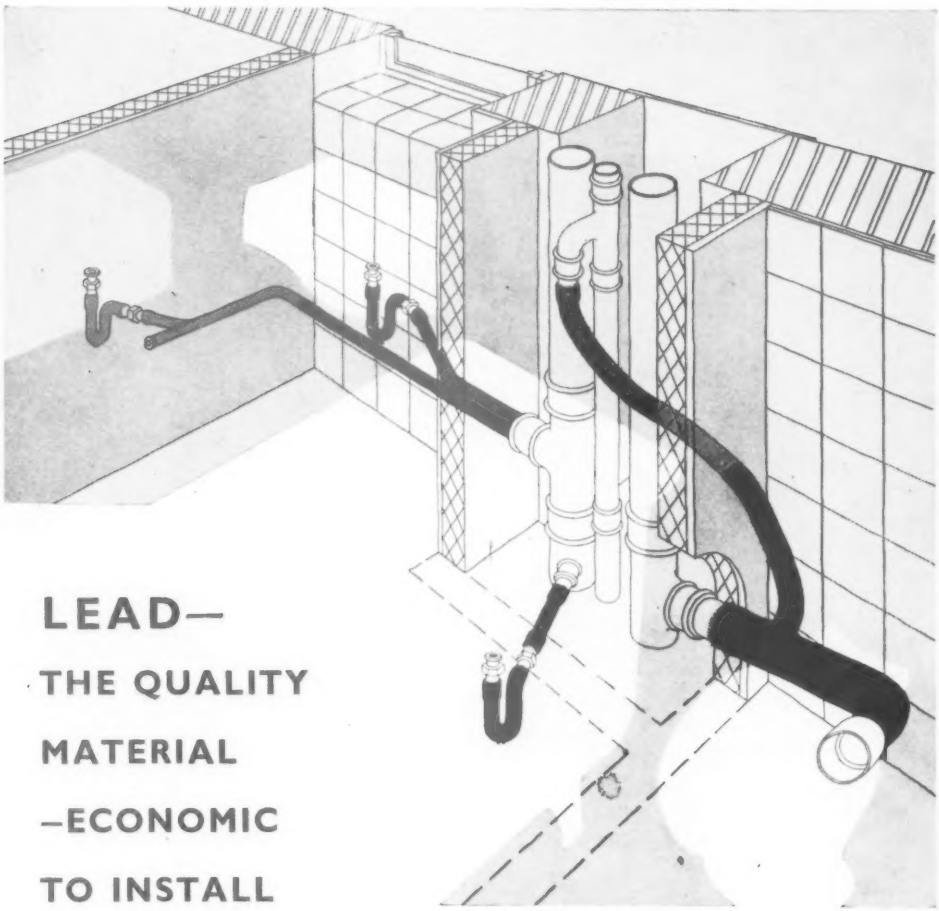


# LEAD—
# THE QUALITY MATERIAL —ECONOMIC TO INSTALL

h

LEAD LASTS

*The Technical Information Bureau of the Lead Industries Development Council, which exists to give assistance on problems relating to the use of lead sheet and pipe in building work, will be pleased to give advice on any questions relating to the uses of the materials.*

Well designed soil and waste pipe installations need LEAD PIPE, because LEAD is readily deviated to permit a compact arrangement, such as that illustrated.

LEAD is not corroded by soil and waste effluents. It can be readily worked—without the need of periodic annealing. Even with the most compact duct plumbing, the smooth bends essential for an efficient soil and waste disposal system are easily formed.

The flexibility of LEAD PIPE permits easy connecting up with sanitary appliances, with in situ adjustment to meet normal variations in building dimensions.

Sound practice is widely understood, since the skilled plumber is a craftsman in LEAD and knows how to get the best results from his material.

**LEAD INDUSTRIES DEVELOPMENT COUNCIL, EAGLE HOUSE, JERMYN STREET, LONDON, S.W.1**

LEAD TECHNICAL INFORMATION BUREAU, 50 EBURY STREET, LONDON, S.W.1 TELEPHONE: SLOANE 0474

893/2/51

*The City of Tomorrow?*

The culmination of thousands of years of hard and laborious progress in the building art is seen with the modern steel-framed structure. To-day this is the accepted form of building for almost everything except the private house. To-morrow's architecture will depend even more upon steel.

The theory of a metal skeleton carrying the load, with the outer walls no more than a curtain round it, was first evolved in Victorian days with cast-iron girders. Not until the development of the stronger and lighter steel girder was such modern type of structure brought to its perfect form.

This method of building was pioneered in the United States with the earliest "skyscrapers." Throughout the years these have gradually climbed upwards to reach their present summit with the eighty-five storey mass of the Empire State Building.

In this country, for various reasons, we have never matched the loftier erections of America. Yet Britain has in her own way, attained a standard of constructional steelwork comparable to that of any other country in the world. Whatever pattern the construction of the future may take, British architects and builders will lead the way.

THOMAS BLACKBURN & SONS LIMITED
PRESTON, LANCASHIRE
*London Office*: 8 *Bloomsbury Square, W.C.1. Tel.: Holborn 8638.*
*FABRICATORS IN STEEL. CONSTRUCTIONAL STEELWORK. IRON CASTINGS. RAILINGS & GATES. METAL WINDOWS. FARM IMPLEMENTS*
7

# WARRY SIMPLEX

## BRICK TRUCK AND MOBILE HOIST

*This truck will reduce the time and labour for handling bricks by* **50 per cent.**

*Full instructions on how to use this Brick Truck is on the back of every truck.*

*Write for full details and a demonstration*

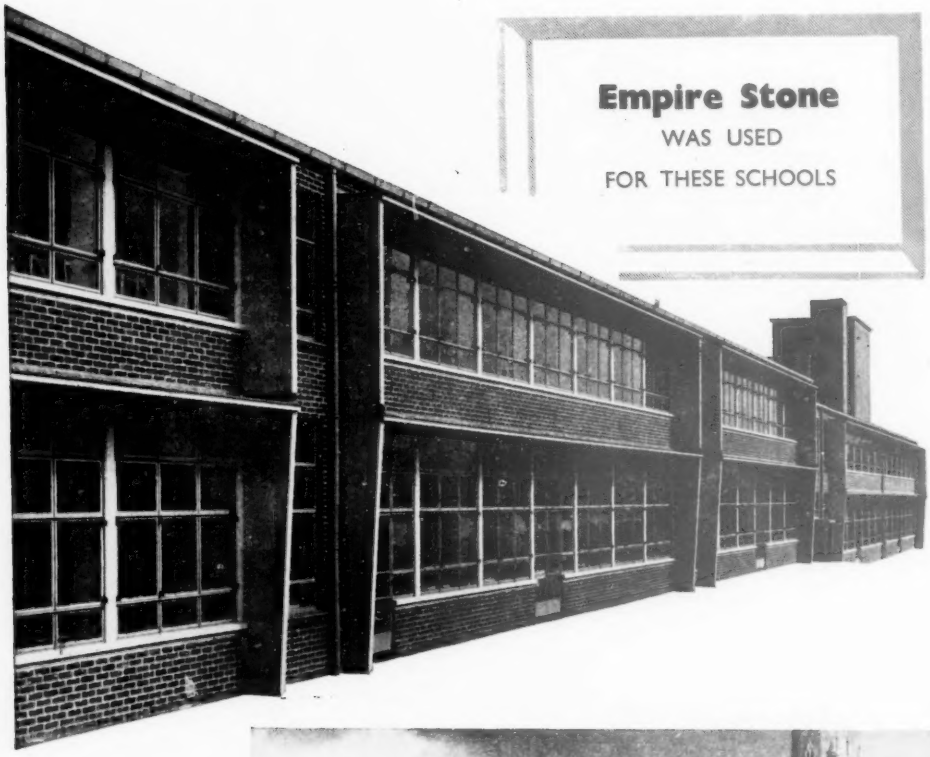
*The Simplex Brick Truck . . Price £13 . 16 . 0 ex works*

***HOISTS FOR SALE OR HIRE***

## WARRY PATENT BUILDING EQUIPMENT CO. LTD.

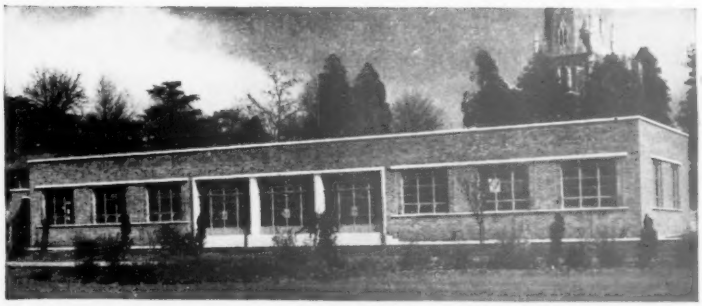
**FAGGS ROAD, FELTHAM, MIDDLESEX** **Telephone : Feltham 4057 and 4058**

**Empire Stone**
WAS USED
FOR THESE SCHOOLS



Fort Luton County Primary School, Chatham, Kent.

Architects:
Read & McDermott, F.R.I.B.A., in collaboration with S. H. Loweth, F.S.A., F.R.I.B.A., M.I.Struct.E., County Architect.

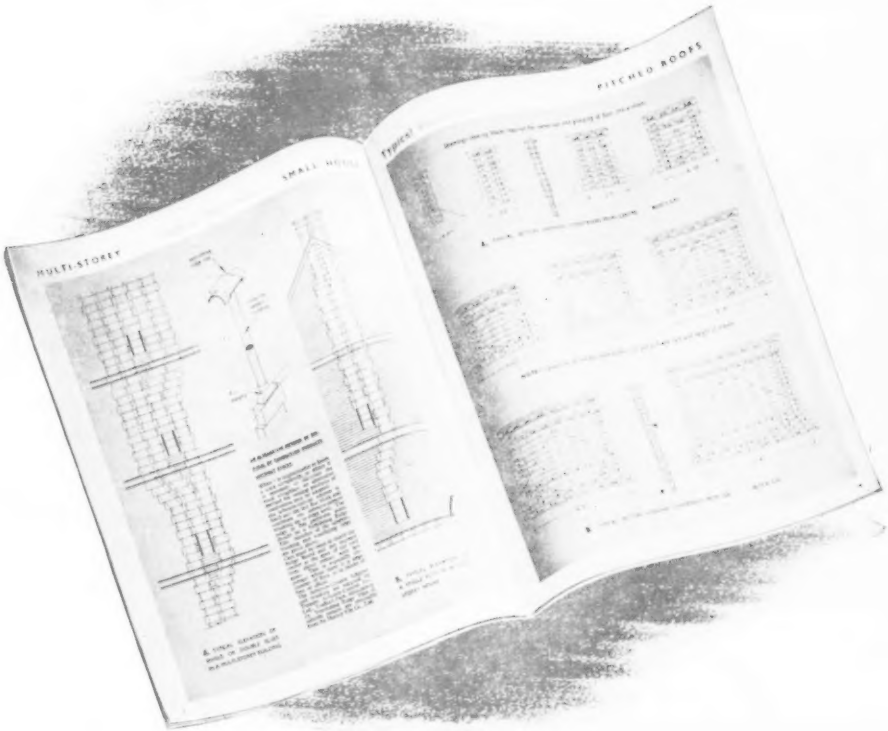


Cedars School, Leighton Buzzard.

Architect:
S. Vincent Goodman, County Architect.

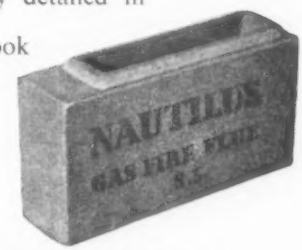
**Empire Stone Co. Ltd.**

THANET HOUSE · 231 STRAND · LONDON W.C.2
WINCHESTER HOUSE · BIRMINGHAM 2
NARBOROUGH · NR. LEICESTER
324 DEANSGATE · MANCHESTER 3




The construction of precast concrete flues for gas fires and ventilation is fully detailed in the Nautilus Gas Fire Flue Block Book

*Copies on application*




***Nautilus** precast concrete flue blocks*

# *made by* MARLEY

**THE MARLEY TILE COMPANY LIMITED**

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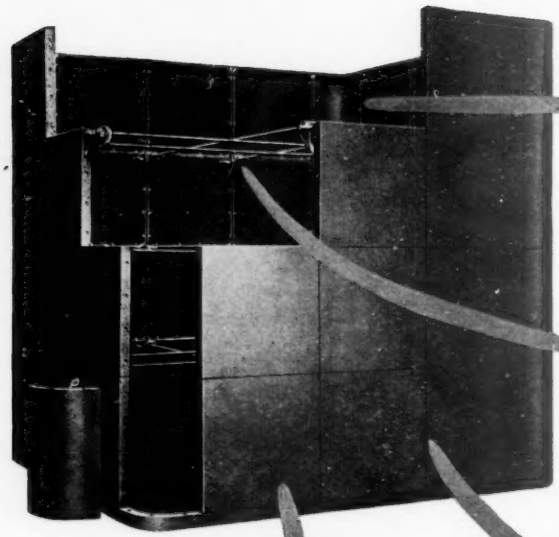


TANKS ARE ERECTED WITH EITHER INSIDE OR OUTSIDE FLANGES

UNIVERSAL BRACKETS AND STAY RODS ENSURE RIGIDITY

JOINTS ARE SEALED WITH STANDARD JOINTING COMPOUND

TANKS ARE ERECTED FROM STANDARD SIZE PLATES

Tanks made of cast iron plates possess a very high degree of resistance to corrosion and therefore form ideal storage units.

Mather & Platt cast iron tanks are constructed of plates 2ft. square, but where a particular tank cannot be constructed of standard plates alone, the difference is made up by using square or rectangular plates with sides 1ft., 1ft. 6in., 2ft. or 2ft. 6in.

The plates being comparatively light, transport is easy and erection can be carried out at small cost.

# CAST IRON STORAGE TANKS

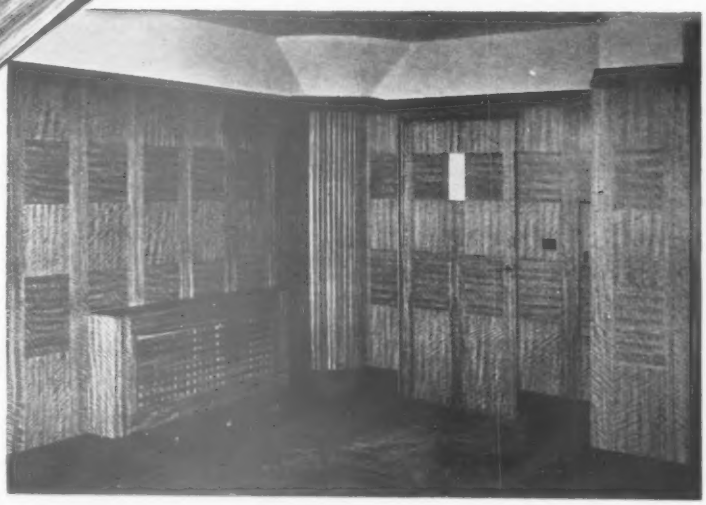
## MATHER & PLATT LTD

**PARK WORKS - MANCHESTER, 10**

JOHN WRIGHT
& SONS
(VENEERS) LTD.

# *Queensland to Nottingham*

Certain veneer logs grow in out-of-the-way places. However distant, John Wright's go there. The logs are shipped to Britain where skilled and trusted craftsmen cut them. This expert handling from tree to veneer makes certain that John Wright's veneers are the best you can buy.



John Wright's Australian walnut in Messrs William Hollins & Co. Ltd. head offices, Nottingham. Designed and executed by Betty Joel Ltd.

**JOHN WRIGHT**
**& SONS (VENEERS) LTD.**
*Manufacturers of Veneers of all kinds since 1886*

AVON WHARF · LONGFELLOW ROAD · MILE END ROAD · LONDON, E.3. TELEPHONE: ADVANCE 4444 (10 lines)

*Chief Architect to the London County Council*—Robert H. Matthew, A.R.I.B.A.
*Consulting Engineers*—Messrs. Scott & Wilson.
*Contractors*—Messrs. Holland & Hannen and Cubitts.

The selection of five Cementone Products and also Exelaero Wall Flat for use on the Royal Festival Hall once again indicates the usefulness of the Cementone range of products for colouring, hardening, waterproofing and decorative work. The products selected were :—

- **CEMENTONE NO. 1 COLOURS**—for colouring concrete paving.
- **CEMENTONE NO. 2 WATERPROOFING POWDER**—for waterproofing mass concrete and cement renderings.
- **CEMENTONE NO. 7**—for internal decorative work.
- **CEMENTONE NO. 8 LIQUID CONCRETE HARDENER**—used in a cement slurry as a key for all internal and external plaster surfaces.
- **CEMENTONE NO. 9 WATERPROOF STONEFACE COMPOSITION**—for external decoration and protection.
- **EXELAERO WALL FLAT**—for the decoration of the main internal fibrous plaster ceiling, etc.

*Full information and literature concerning the Cementone Products will be forwarded on request.*

**YOU CAN DEPEND ON** **Cementone**

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# "SILVER FOX"
## STAINLESS STEELS

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SAMUEL FOX & COMPANY LIMITED
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F232

# 'Alframe'

# 'TROPICOOL' BUNGALOW

## for COOL interiors in HOT climates

Provides first-class homes which, being factory made, are readily shipped and erected anywhere. Large living room, two or three bedrooms, kitchen, bathroom, verandah along three sides (enclosed with mosquito netting if required). The construction is extremely simple and it can be erected by unskilled labour. The framework and exterior are of high strength non-rusting aluminium alloy. Roof reflects heat of sun to maintain cool interior. The insulation of walls equals 11-inch cavity brick; electrical and plumbing service supplied ready for assembly.

*Send your enquiry to*

**STRUCTURAL & MECHANICAL DEVELOPMENT ENGINEERS LTD**

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IN ASSOCIATION WITH ALMIN LIMITED FARNHAM ROYAL BUCKS

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# Specify 'Rufflette' BRAND Runway

## a complete and specialised range of curtain suspension systems

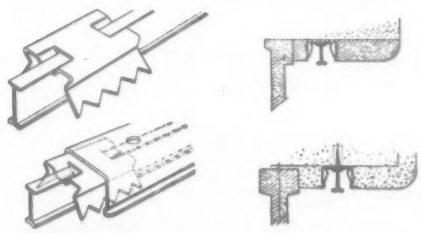
'RUFFLETTE' BRAND CORD-CONTROLLED RUNWAY FOR BAY WINDOWS

'RUFFLETTE' BRAND RUNWAY FOR STRAIGHT WINDOWS

★ For smooth and trouble-free operation specify 'Rufflette' brand cord-controlled Curtain Runway. It is recommended for use in large establishments, hotels, offices and residences where curtain can be controlled without handling. Available for bay as well as straight windows.

BAY WINDOW COMPONENTS

'RUFFLETTE' BRAND RECESSED (BUILT-IN) CURTAIN RUNWAY



'Rufflette' brand Recessed Curtain Runway is a permanent and integral part of building construction. It is inexpensive and can be fitted into wood or plastered lintels. The runway is held rigidly in position by a patent spring clip without screws and is a concealed and a permanent fitting.

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*Also at* BRITISH EMPIRE BUILDING, NEW YORK CITY, *and* 75 VICTORIA SQUARE, MONTREAL

# INSEPARABLE

## THUNDER and LIGHTNING

"Lightning (or thunder) can't be far away," we say, as we hear or see its counterpart rend the heavens.

In dealing with constructive, as well as destructive, elements we note the same fixed association of ideas. For, whenever Architects and Engineers have in project some great building requiring secure foundations, thoughts turn to Piles—and thence to FRANKIPILES.

To so many concerned with construction problems, Piling always means **FRANKIPILING**, a single word denoting the cast-in-situ system of Piled Foundations which has been so well tried all over the world for its security, speed of operation and economy.

# FRANKIPILES

## carry more tons per pile

**THE FRANKI COMPRESSED PILE COMPANY LIMITED**

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*Telephone*: ABBey 6006-9 *Telegrams*: FRANKIPILE, SOWEST, LONDON

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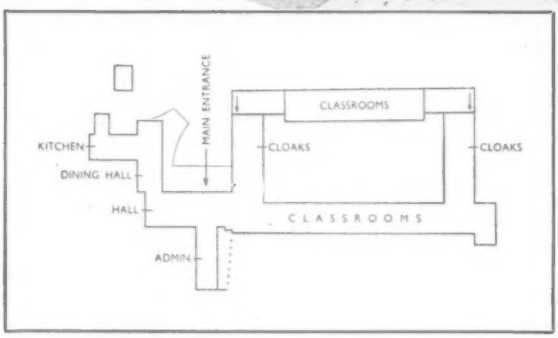


WEXHAM ROAD SCHOOL, SLOUGH
(For Bucks. County Council)
County Architect: *F. A. C. Maunder, R.S., Dip. Arch., F. R. I. B. A., A. M. T. P. I.*
Contractor: *A. Roberts & Co., Ltd., Victoria*

Though economy and speed of erection are essentials in school building, yet something more is needed. A school should be designed to give, in its use, pleasure, convenience and stimulation to pupil and teacher alike. The Orlit method of construction is economical and speedy; it also allows the architect full opportunity to exercise his skill in design.

# ORLIT
## CONSTRUCTION

**PRE-CAST CONCRETE**
**PRE-STRESSED CONCRETE**

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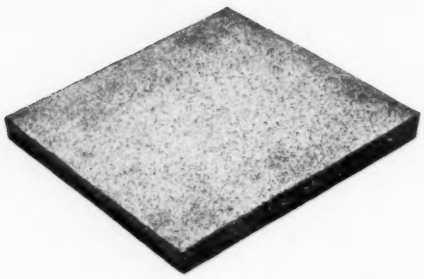
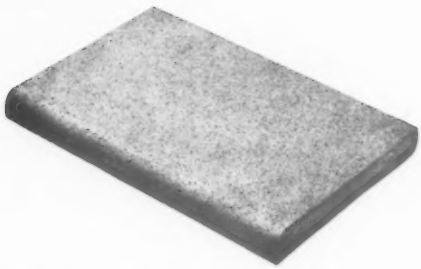
# ALTRO PRESTILE

for

# floors and stairs eliminate wear and danger of slipping





these hydraulically pressed tiles containing quartz aggregate, Altro (Aluminium Oxide grain) and Colemanoid are :—

## nonslip (wet or dry)

Aluminium Oxide (Altro) grain is hard and tough.

## hardwearing

Quartz is hard and Altro even harder The tile will stand up indefinitely under severe traffic.

## impervious

Colemanoid not only increases the tensile and compressive strength of the cement but proofs the body of the tile.

## decorative

white, cream buff, grey, light green, green, red or brown, all easy to keep clean.

Incidentally, the bottom of the tile is left porous to ensure that the nosing tile does not kick up. For prices and samples write to me,

Cecil Kalm

## Standard Sizes

| straight edged | round nosed | angles | coved skirting | round nosed 2 edged |
|---|---|---|---|---|
| 9×9×¾ | 9×9×¾ | 9×6×¾ | 9×6×¾ | 9×9×¾ |
| 9×6×¾ | 9×6×¾ | 9×3×¾ | 9×4×¾ | 9×6×¾ |
| 3×3×⅝ | 9×4×¾ | | | 9×4×¾ |

**THE ADAMITE COMPANY, LTD, Manfield House, Strand, W.C.2** **Tem. Bar 6233/6**

Vol. 199. No. 4292.

THE ARCHITECT & BUILDING NEWS

March 23, 1951.

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# FOREIGN BODIES IN THE MALL

"THIS is not the last to be heard of this matter": the words of Lord Mancroft at the close of the recent debate in the House of Lords were not so much a threat of further political action as a prophecy—an expectation of comment, probably adverse, from posterity.

For there is much more in, on or below the surface of this subject of the adaptation of Carlton House Terrace than is expressed. So far the level of discussion has remained on one of two planes, both important but both with root causes that are probably unrecognised by the protagonists. Why should the Foreign Office want all this new space at the present time and, if it is really wanted, why adapt buildings and an area of open space rather than build something new and efficient and completely for the purpose? That is the eminently practical side. The other main ground for comment and even considerable choler is why upset and adapt for a use for which it was not built one of the few planned pieces of formal dignity that are left from the hand of Nash in the centre of London? Certainly the Regent's Park Terraces remain to us—half alive, but making themselves useful—but why should Carlton House Terrace, which is of greater importance and nearer to the ceremonial centre of London, be treated in the same sort of way? That is the architectural and aesthetic side of the argument.

Let us approach these questions by first asking one: if the problem had been put to Nash or to any Georgian architect, what would have been the answer? It would be fair to surmise that it would have been, "clear the ground and build anew". In other words, build something that would be even better to flank the Mall and, at the same time, be designed for its purpose. Almost any age, up to the last phases of the Victorian, would have been capable of producing something equal or better than what was removed and, therefore, would have given much the same answer. What has changed? There have been more worthy buildings destroyed than have survived to cause the Carlton House Terrace sort of trouble. Why do we not accept the challenge to create beauty and grace and dignity for our own times? Or have we lost these things?

Perhaps the first reason for vacillation is related to a feeling of inferiority which all like to suppress (thus making it more intense); the present age seems to be doubting if it is "up to the job" and is fearful of committing itself. We hang on to objects generally applauded because, to replace them in the present-day idiom, is straining too much the resources at the disposal of this mid-twentieth century period of transition. This is a sad sort of summary; but the feeling exists outside the professions and in the minds of laymen, who see, or think they see, less beauty and grace arising after any destruction of past qualities. If this is true, is the process to be continuous? How long must be the wait for a renaissance?

The second reason is, perhaps, a little more subtle; it is, probably, complementary to the first. To-day we are more appreciative of the past than ever before, because (a) we know more about it and (b) we know better how to preserve it. We have, in other words, acquired something of a new cultural outlook and wish to keep those things of the past which have contributed most to it and to the present. Therefore soreness and doubt arise when the fate of Carlton House Terrace is discussed.

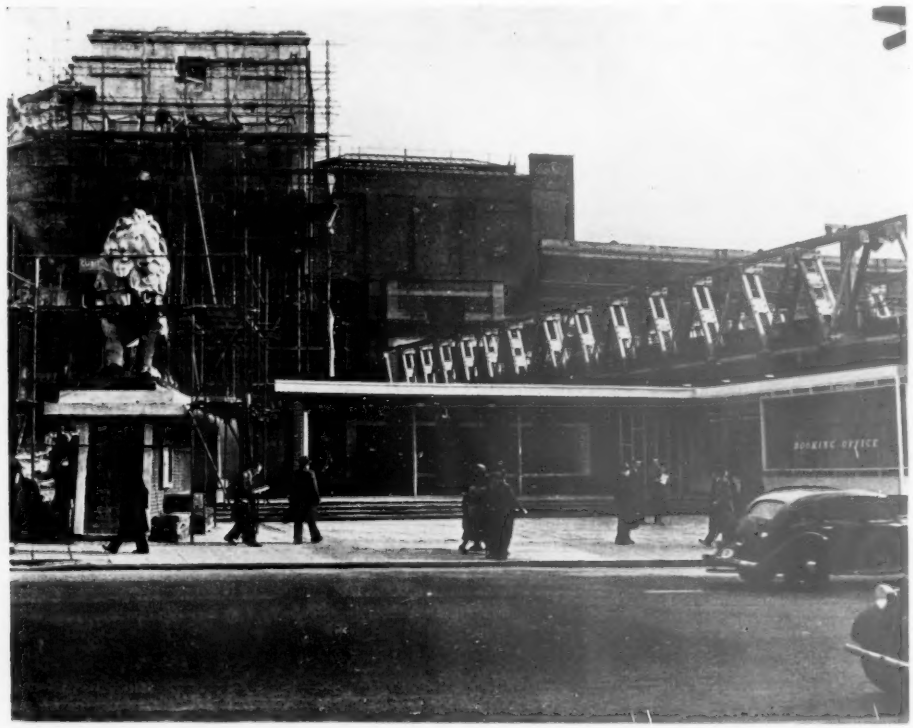
There is a third reason, but it is base and not on the same level. "Make do and mend" is often easier

and generally cheaper than to be bold, to clear the decks and think again.

The expansion problems confronting the Foreign Office are not isolated ones; they are related to the expansions necessary for Colonial administration (which may conceivably diminish with the enlargement of the Commonwealth) and with other office-space problems of the Government.

How do first ideas arise? To put, for example, the Colonial Office at Westminster or the Foreign Office at Carlton House Terrace? They seem awfully like bright thoughts in the bath—perhaps that was also the source for that unknown's brain-wave who gave us "olde taverns" in railway coaches. Admitted, new offices are wanted; admitted, London is what it is—an unplanned mess. Then why not admit also that it might be possible to consider that all overseas administration could be brought together into one building or, at least, one area. There is the Colonial Office, the Office of the Crown Agents for the Colonies, the Commonwealth Relations Office and all its various subsidiary and allied offices and the Foreign Office; there are vast, open, derelict, bombed spaces in various parts of London and a south-bank Festival site, probably "going begging" in about a couple of years' time. Why is it necessary to add to the existing congestion of what should be a Westminster precinct or to that of Whitehall and the Trafalgar Square area? Do we plan with vision?

London is what it is—charming, uneconomic, crude, a foolish conglomeration of all periods—because of the very sort of arbitrary piecemeal developments that are now contemplated for these two government departments and because major opportunities have been lost so often in a welter of political and financial chatter and indecision; after the Great Fire of London, during the mid-Victorian expansions and now after the bombing of London and amidst a need for even greater expansion. The Metropolis is largely out of date and such decisions and discussions as those centreing around the new buildings for the Foreign Office and the Colonial Office only serve as smoke-screens to hide the major issues of real co-ordination and planning for a greater future.




*At the wish of H.M. The King, a place was found on the Festival Site for the lion which surmounted the brewery. It is now in position flanking the Royal Festival Hall booking office. Mr. Frank Bricknell, one of Messrs. Jenolite's rust experts, discovered a trap door in the lion's back which opened on to a cavity containing a bottle with a message inside written, we understand, by Woodington who sculptured the lion in 1837.*

# EVENTS AND COMMENTS

## *ROYAL FESTIVAL HALL*

I WAS lucky enough to be given two tickets for the first of the recent tuning-up concerts at the Royal Festival Hall. I have already made several predictions about this building and after attending the concert I stand by them all. It was a thrilling experience. It is, in my opinion, too soon to attempt an overall criticism of the building, let alone to comment on details. In the first place the hall is not finished, and on Wednesday we passed through unfurnished foyers and up staircases still without handrails. All the same, a sense of tremendous achievement is the feeling uppermost in my mind. I am, I admit, emotional on such occasions. The splendid openness of the foyer and the exciting staircases from which a constant procession of changing vistas is seen, is so exhilarating that it made me want to clap my hands with excitement.

The auditorium is practically finished except for some work behind the orchestra and the replacement of panels removed for acoustic reasons. The great bank of stalls holding more than two thousand people is impressive to a degree. I found so much to wonder at that I did not perhaps give sufficient attention to the London Symphony Orchestra, playing in their shirt-sleeves, under Basil Cameron. The view of the orchestra from, as far as I could calculate, any seat in the hall, is perfect. Head and shoulders of each player being clearly seen. This, I know, is not important to some people, but it is to me.

To see a British post-war building which is neither factory, school or a housing scheme is particularly satisfactory. To see one which has been built using the best materials is particularly satisfactory, but to be able to predict confidently that such a building will be talked about, admired, and imitated all over the world is much more than that. You will have noted that I am enthusiastic about this building. The time for "credits" for this mighty work is not yet, but anyone who has had anything whatever to do with it, whether as a promoter, designer or builder of any grade, would be entirely justified in feeling himself an inch or so taller and with a correspondingly expanded chest.

The object of the concert was, of course, to test the acoustics with a full house. Between the pieces of music a solemn and correct gentleman fired a number of rounds from first a .32 automatic and then a .45 revolver. No one was hurt. Everyone tried hard to hear the trains on Hungerford Bridge and the Bakerloo Line, forty feet under the floor. Only the *Daily Express*, I think it was, succeeded in hearing a faint rumble from below. Hope Bagenal, the acoustic accoucheur, presided solemnly from the Royal box on one side, while Dr. J. L. Martin, the head of the Festival Hall section of the L.C.C. Architect's Department, surveyed the scene from a box on the other side. I do not know enough about acoustics or music to say whether the concert conditions are perfect, but it appears that ideal concert conditions are not necessarily ideal acoustics. Presumably the musicians and their critics will have the last word. The sound insulation has clearly succeeded remarkably well, and no doubt any necessary adjustments on the finer points of acoustic science and engineering will be well within the capabilities of Hope Bagenal and the B.R.S.

My only regret about all this is that I shall not be at the Gala opening, unless of course . . . .

## *IDEA FROM SOUTHAMPTON*

THE County Borough of Southampton recently exhibited its proposed Development Plan. In connection with the exhibition the Corporation issued a one-page leaflet saying in short, clear sentences what the Development Plan was and what it was not. If other boroughs had thought of this before, I apologise for not having heard about it. It seems to me to be a very good idea.

## *RAILWAY DESIGN*

ON another page you will find a letter from the Publicity Assistant to B.R. (M.). He may be right about the majority of passengers liking the railway carriage pictures. This does not necessarily mean that they are good. That "we at Euston" like them very much indeed is a great pity.

Having called a truce last week by praising railway architecture "on the board," I am sorry to have to return to the attack so soon, but to remain silent before British Railways Posters Nos. 20, 22 and 12 is impossible. No. 20 is a safety-first poster showing the dangers of opening the door before the train stops. In colour, composition and draughtsmanship it is a shocker and not of the right sort either. No. 22, which carries Easter information, is one of the worst pieces of typography I have ever see displayed by a responsible authority, and has at its head a monstrous drawing of the front of an engine, the buffers of which are turned into leering faces. No. 12 is a map of the British Isles with a certain amount of lettering. The design and lettering are inferior and the colour depressing beyond words. These three posters seen side by side, as they are on my local station, present one of the sorriest pieces of Railway Design seen since the Tavern Car incident. It has been said that London Transport posters are not what they were. The worst ever produced by that generally admirable organisation was at least never an insult to its passengers.

## *CYMRU AM BYTH*

SERVING in North Wales during the war, Mr. Graeme Lumb became fond of the country, and, I guess, the people. He has now, after promising to learn the language, been appointed general works foreman to the Caernarvon Town Council. Mr. Lumb is a man after my own heart.

## *COUNTRY ARCHITECT*

THIS week I am writing in the office of a non-London architect. In many ways his set-up fills me with envy. A pleasant and neatly arranged office, a handful of assistants quietly going about their work. Plenty to do but no frantic rushing about, no roar of traffic. It is true that it is Saturday morning but the town has a peaceful air. London is near enough to be convenient for work and pleasure. Why don't I give up the brouhaha of what passes for the life of an architect in London and do what I think I have always wanted to? Well, why don't I?

## *A NEW GAS COOKER*

I DO not think that architects are competent to judge domestic equipment any more than I think women are necessarily competent to plan kitchens. The Raynond gas cooker, presented to the world by General Gas

Appliances last week at the Dorchester, certainly looks very nice, and in its white stove-enamelled overcoat is undoubtedly very hygienic. A picture and a description appear, I believe, on another page. The price of this cooker is somewhere around sixty pounds. This will put it out of the reach of most people, and shortage of steel may put it out of the reach of a few more. Whether its qualities are cheap at the price I do not know.

### RESTAURANT SALES TALK

IN this country, if a restaurant proprietor can provide a well-cooked meal at reasonable cost he does not need to advertise. In America, where juicy steaks and competent cooks apparently abound, this is not enough. The proprietor of a Los Angeles establishment has found it worth his while to instal a visible indexing system for his clients so that he can send them follow-up literature and reminders that he has not seen them for ever so long. The difference between America and Britain is that this sort of approach seems to work in America. It would work here too? Well, send us a ship-load of steaks, then, and we'll see.

### CONSERVATIVE HOUSING

MR. Ernest Marples, M.P., has written a booklet for the Conservative Political Centre on Housing. It bristles with the sort of facts which I find difficult to assimilate but it claims to prove that the present housing policy is wrong and that the Government is using rearmament as an excuse for not building more houses. I must say that it seems a pretty good excuse to me. Building and politics do not mix well and no one could say how many houses a Conservative Government would have built since the war. Mr. Marples makes two "respectful recommendations to the architectural professions" (*sic*):

"(1) They should work on sites, mix and live with contractors. Only directly tackling jobs makes us fully understand its difficulties and headaches.

"(2) Practical work on sites, building costs and standardisation should in future have a larger place in their profession training."

Mr. Marples writes as a builder and one who should know something about architects' habits and problems. From his first point one would not perhaps have thought so. His second point is a good one and several schools of architecture have the matter well in hand.

The Playbill lettering on the cover of the pamphlet partly obscures a semi-Tudor style house with leaded light windows. Architecturally a dangerous badge for Conservative housing policy.

*ABNER*

# NEWS OF THE WEEK

## I.U.A. Second Congress: Morocco, 1951

As previously announced the 2nd Congress of the International Union of Architects will take place from September 23 to 30, 1951 at Rabat, Morocco.

M. Alexandre Courtois, President du Conseil Superieur de l'Ordre des Architectes du Maroc, will preside.

The theme of the Congress will be "How the architect is tackling his new tasks." The Congress will be divided into two parts: A. The theory and practice of town planning; B. Review of future prospects for reconstruction and redevelopment.

There will be five sessions at which papers will be studied.

A.1. *Urban Centres.*

A.2. *Housing.* (Covering all aspects from lay-out in the city to domestic equipment of an individual house.)

A.3. *Open Spaces.* (Covering all problems from the provision of green belts, etc., to the lay-out of parks, gardens and sports grounds.)

A.4. *Building Techniques.*

B. *Outlook for the future.*

Contributions under each of the above headings will be made by individuals and by each member-nation.

A co-ordinator has been appointed for each session and his task is to present at the meeting a digest of all the contributions received on his particular subject. Mr. Anthony M. Chitty, F.R.I.B.A., has been appointed as co-ordinator for the session A.2. Housing, and will be responsible for co-ordinating the contributions on this subject. It is open to any individual member to contribute material on any of the subjects. In no case should the contributions exceed 1,000 words. Contributions should be addressed to the Secretary, United Kingdom Committee, I.U.A., c/o R.I.B.A., 66 Portland Place, W.1, and must reach him not later than June 1, 1951. They must be typed in duplicate. Arrangements will then be made for them to be forwarded to the appropriate co-ordinator.

In addition to submitting contributions as described above, architects proposing to attend the Congress may contribute to the discussion at any meeting, but are required to give prior notice of their intention to do so, providing at the same time a precis of their intended remarks. Such notice and precis should be sent to the Secretary, United Kingdom Committee, for forwarding.

The Congress will be preceded by an Assembly at Casablanca from September 20 to 23.

An international architectural exhibition is being arranged simultaneously with the Congress and the British section is contributing an exhibition of some 45 panels entitled *In Britain To-day.*

Seven tours of places of interest in French North Africa are being arranged by the International Union in conjunction with the Congress. The longest tour ends on October 11 and the shortest on October 4. Particulars of these tours may be obtained from the Organising Secretary, International Union of Architects Congress, 2 Rue Goethe, Paris XVI.

Messrs. Thomas Cook & Son have been appointed travel agents by the International Union and conversations have been held with their London office with a view to Messrs. Cook accepting individual applications for inclusion in a party for which special travel arrangements will be made. Those proposing to attend the Congress should send their names and addresses to *The Secretary, United Kingdom Committee, I.U.A., c/o R.I.B.A., 66 Portland Place, W.1,* and arrangements will be made for Messrs. Cook to get into touch with them. Applications may also be made direct to *Messrs. Cook's Head Office, Berkeley Street, London, W.1,* which should quote the reference number *POD/N.*

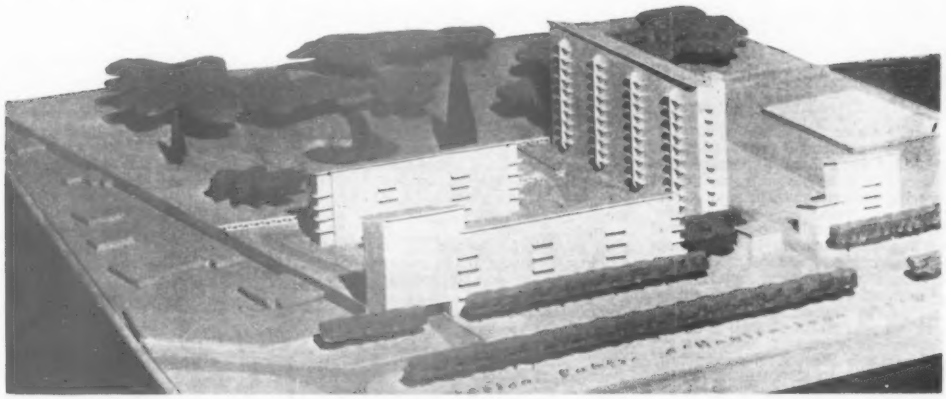
## Kent Housing

An expenditure of £36,000,000 on housing during the first five years of the Kent County Development Plan is forecast in a preliminary statement presented to the County Council by the Planning Committee.

With the slow overtake of needs for rural housing and the possibility of fewer sites being available, the Committee thinks it is reasonable to assume the provision of 1,000 houses a year by the Rural District Councils. Another 350 new houses a year are likely to be provided by private builders.

In the Boroughs and Urban Districts, the Committee estimates the building of another 2,500 houses a year by local authorities and about 650 by private builders, making a total house-building programme of 4,500 a year.

On a sample of housing needs registered by local authorities, the existing need is 52,000 houses which, at the present rate of progress, will take 12 years to build. No account is taken of



*Model of a housing project about to be started at Choisy le Roi, a suburb of Paris.*

a possible increased population or of the necessity of replacing dwellings now, or likely to become, unfit for human habitation.

The average cost per house, including cost of site preparation, appears to be about £1,500 for local authority houses and £2,000 for private building. At 4,500 houses a year, this represents £36,000,000 during the first five years of the Plan and £7,250,000 each year after that until (perhaps after the 15th year of the Plan period) some diversion of resources to other projects may be possible.

The projects recommended by the Education Committee for inclusion in the Development Plan include a great many new schools in many districts. The full programme may mean an expenditure of £15,000,000, including works now in hand. The annual expenditure on new building is about £2,000,000.

The Planning Committee estimates that another £18,000,000 will be required for roads. "National policy has decreed a virtual post-war standstill upon road works other than essential maintenance," it states. "Indeed it will be within the recollection of the Council that the numbers of road employees had, at Government request, to be substantially reduced.

"The gross expenditure on all County and Trunk Roads in Kent declined from £1,177,000 in 1947-48 to £1,082,800 in 1949-50, when expenditure on major improvements was only just about £21,000 . . . Clearly, if major road works are to proceed, some labour must be diverted from other activities in Kent or additional sources found, quite apart from questions of money and materials." The Committee foresees an expenditure on new projects of not less than £5,000,000 in the next five years.

The County Council approved the following order of priority as the policy on which the programming of the Development Plan is to proceed:

1. Housing, including necessary streets and other related services.
2. Industrial developments.
3. Education projects.
4. Rural water-borne sewerage and sewage disposal.
5. Roads.

## R.I.B.A. Cricket Club

The R.I.B.A. Cricket Club held its annual supper on Thursday, March 8, when twenty members of the Club gathered at the "Unicorn" in Jermyn Street.

The Captain, Mr. Douglas Taylor, gave a most informative summary of the past year's activities and welcomed the Club's guest, Mr. E. L. Bird, representing the R.I.B.A. Members entertained each other with stories of the cricket world and elsewhere, and a most enjoyable evening continued until closing time.

The following were elected as Members of the Committee for the coming year: D. S. Taylor, C. A. R. Norton, B. S. Smyth, R. R. Fairbairn (Hon. Sec.).

The following fixtures have been arranged for the coming season: Sunday, June 3, Blue Circle C.C. (A.A. Ground); Wednesday, June 27, Architectural Association (A.A. Ground); Wednesday, July 18, The Vitruvians (A.A. Ground); Wednesday, August 1, R.I.C.S. (College of Estate Management Ground, Hinchley Wood); Thursday, August 23, Club Cricket Conference (Guildford).

The Hon. Sec. very much hopes that new members will be attracted to join the Club, as some strong sides are expected to be encountered.

Any Member of the R.I.B.A. who is interested in the Club is asked to contact the Hon. Secretary, R. R. Fairbairn, 81 Piccadilly, W.1., who will be pleased to give details of membership.

## L.M.B.A. Appoints Technical Officer

Following the statement by the President in his inaugural address that the L.M.B.A. proposed to devote increasing attention this year to building research, it was announced from 47 Bedford Square after the March meeting of the Council that the L.M.B.A. has now made arrangements with the Ministry of Works by which the services of one of its senior technical officers in the London area will be available on a part-time basis to L.M.B.A. members.

The Technical Information Officer appointed to this position is Mr. E. G. Dean, and he will be available for consultation by individual members, and will visit L.M.B.A. areas and talk to members.

Among Mr. Dean's duties will be the answering of technical problems raised by members, the provision of information about good building practice, the organisation of periodical lectures and exhibitions, and it is hoped that in the course of his work he will build up considerable knowledge of building problems to which the Ministry's research departments will devote attention.

Mr. Dean takes up his duties on April 1.

★

The official unveiling ceremony was held at the London Headquarters of the Institute of Quantity Surveyors on Saturday, March 17, of a Past Presidents' Board, presented to the Institute by Mr. F. Biscoe Taylor, P/P.I.Q.S., F.F.A.S.

The President of the Institute, Mr. J. Gregg, F.I.Q.S., M.I.O.B., conducting the ceremony, said that the presentation of this board, an all too rare example of fine old English craftsmanship, would serve to remind members of the services rendered to the Institute during early and difficult times by its first Presidents.

Mr. Biscoe Taylor, replying, said that thanks were due to Mr. Stewart, who had designed the board, and Messrs. Porter and Johnstone who had been responsible for its execution.

### OBITUARY

The death was announced on March 10 of Frank Roscoe, A.R.I.B.A., of Berkhamsted.

# CORRESPONDENCE

## Modular Co-ordination

### 36 in. Module Suggested

*To the Editor of* A. & B.N.

Sir,—I have read with great interest the B.S.I. Committee Report on this subject as I have heard so much from America in recent years concerning the advantages being gained from the adoption of modular co-ordination of building components. If, as is suggested, by making more products to sizes which fit together properly, large amounts of cutting and waste could be avoided and considerable economies in time, material and money be obtained, then we surely ought to adopt such a system in this country. We cannot, of course, expect to eliminate all cutting of holes and their making good but much of the cutting we now do is due to the fact that stock sizes of materials do not fit together nor are buildings always planned to reduce this cutting. To achieve the desired economy it would be necessary for buildings to be designed to take proper advantage of materials having modular dimensions and it is to be hoped therefore that the architects would be the first to adopt any such scheme as without them I doubt whether much would be gained nor would there be any incentive to manufacturers to produce their goods to modular requirements.

I have heard from many sources in addition to the B.S. report suggestions that the module should be a horizontal unit of 40 in. although 8 ft. 3 in. was advocated for schools not long ago. I should like to suggest that 36 in. would be a better unit as this would bear a better relationship to normal thoughts on building dimensions in a country which has such a strong brick tradition and which continues and is likely to go on using bricks as its main carcassing material; this basic dimension gives the very useful multiples of 12 ft. and 15 ft. which for so many purposes seem preferable to 10 ft. and 13 ft. 4 in. It seems to me also that 6 in. would be an excellent vertical modular unit for doors, windows, storey heights and the like.

The adoption of these suggested dimensions would allow many of our present building components to be used immediately as products conforming to the modular scheme instead of a long period being needed to convert plant to make the products to fit an entirely new dimensional basis; this procedure is what appears to have been adopted in U.S.A., where the building industry is already becoming very modular conscious, as there 4 in. was adopted as the modular unit which takes in their 8 in. brick and the 16 in. centres of stud framing which is so widely used.

It appears to me that to adopt 40 in. horizontally and 8 in. vertically as our basis would necessitate the conversion of almost every piece of plant in this country producing building materials and components which have length, width or thickness; this would not only involve a fabulously large capital expense, which it is doubtful that we could afford nationally let alone individually, but would take very many years to achieve on a working scale; whereas to adopt 36 in. horizontally and 6 in. vertically, with their multiples and fractions, would necessitate only a partial change in our production and would permit a very rapid introduction of a modular system with a consequent quicker result in speeding up and cheapening of building which is the aim and the only reason for the adoption of a modular scheme. To change the sizes of a large number of common building products might easily affect building production adversely for quite a long time.

Modular co-ordination is really a sensible extension of the work of the British Standards Institution which for many years has been standardizing dimensions for components. There are, at the moment, causes for real annoyance in the building industry in regard to the non-agreement of dimensions which the adoption of a modular system would eliminate; for example, in the south of the country bricks are usually $2\frac{3}{8}$ in. high giving 3 in. courses but in the north they are $2\frac{3}{8}$ in. high giving $3\frac{1}{8}$ in. courses so that windows lintels, etc. cannot be mass-produced for sale in both areas to fit brickwork but unification through the modular scheme would allow many of the components which have to fit brick courses to be standardised and be produced more economically.

I should like to know the reactions to my suggestions for modular units as I do not feel that sufficient account has been taken of the means of production and the changes that would be involved to meet the B.S.I. committee's proposals. I would like especially to know why in a country which thinks in terms of feet and inches such a non-British basis as 40 in. is being contemplated; I realise that 40 in. is near one metre but the difference being more than $\frac{1}{2}$ in. is so great that normally accepted tolerances would not permit of the one being used with the other; it would seem better, therefore, to use a module which will fit general British building practice especially as the export to the continent of many basic building products is very small and it is only these which would most need to be made to modular sizes.

I am, etc.,

"BUILDING MATERIAL SUPPLIER."

*

*To the Editor of* A. & B.N.

Sir,—My views as a manufacturer of tiles and as a contractor for tiling work, on the first report of the British Standards Institution Committee on Modular Co-ordination are as follows:

As one of the early findings of the Committee was that "smaller units, such as bricks and tiles, are essentially more flexible in use and can more readily be assembled to give any required overall dimensions without much serious loss of time or material. For this reason the Committee feels that small modules of 4 in. and 10 cm., being considered and developed abroad, are misconceived . . ."—the report would not appear to apply directly to most types of wall and floor tiling.

However, I think it is worth while to point out that even when wall tiles were available in units of 3, 4, 5 and 6 in. square, I cannot remember a single instance in which a particular size of tile was specified because it would fit a given space without cutting. The decorative value of the scale of tiling appears always to have been of more importance to designers than any relatively small reduction of waste.

The effect of a 40 in. planning grid on the use of larger units of terrazzo and floor tiles and the 8 in. by 12 in. and 12 in. by 18 in. glazed tiles which are frequently used for exterior work, would depend on whether the grid was applied to the structural materials as is to be expected, or to finished surfaces. It would certainly be possible to make large tiles which would work with modular units, but their thickness and that of their backing would inevitably create anomalies at the returns.

Because of these questions of thickness and backing and internal and external angles, the modular system would not simplify the preparation of sub-contractors' drawings for setting out, nor would it have any advantage when the work was prepared on the site. The workmen would still have to start as they do now by measuring up the rendered surfaces and fitting the tiles to them.

Recent changes in the method of firing tiles may be expected to limit the sizes of units to aliquot parts of 12 in. and although a 4 in. tile (10 to the module) can be made easily enough, 5 in. tiles, for example, would be impracticable.

The 6 in. by 6 in. tile which is most commonly used, is the largest size that can be made from standard materials without undue distortion—specially prepared materials and special kilns are necessary for larger tiles of this type—and it is the largest size that a man can conveniently span with his hand when fixing the tiles. For this reason the cost of fixing increases with the smaller tiles, and a smaller unit than 6 in. becomes uneconomic.

As regards the introduction of an international module, the 6 in. (15 cm.) tile is the most commonly used in all countries except North America, where, in spite of the fact that a 4 in. module is mentioned in the report, a $4\frac{1}{4}$ in. tile (10.775 cm.) is the standard. In several of the South American countries, tariffs are assessed by weight, and specially thin tiles are made for export to those countries. Tariffs are perhaps an unusual factor in this problem.

The modular system does not offer any advantages in the setting out or execution of tiling work. It would be helpful to the manufacturer of tiles if one size were to be standardized, but only a 4 in. unit would both work with the suggested module and also be suitable for efficient manufacture, and since the cost of fixing these is higher than for 6 in. units there would be no advantage to the public in the long run. Although designers might find some benefit in adopting a modular planning

grid, they would be handicapped in the matter of scale by any limitation in the variety of sizes of tiling available to them.

I am, etc.,
D. A. CARTER.

## Railway Design

*To the Editor of* A. & B.N.

Sir,—I am sorry Abner does not think much of the new London Midland (not L.M.S.) carriage pictures, but nevertheless we venture to think that the majority of our passengers will, unlike him, prefer their colour to many of the out-of-date photographs they will gradually replace.

I did not, by the way, *comment* that the cost of the new pictures is less than that of the photographs. I stated it as a fact. Had I commented upon them I would have been tempted to say that we at Euston like them very much indeed, and that would surely have been out of place !

I am, etc.,
GEORGE DOW.

## Technical Information and Documents Unit

### *Transfer from B.o.T. to D.S.I.R.*

As from April 1, 1951, the Technical Information and Documents Unit (T.I.D.U.), which for a number of years has been attached to the Board of Trade, becomes part of the Information Services of the Department of Scientific and Industrial Research. For the present the Unit will remain in Lacon House, Theobalds Road, W.C.1, where it will continue to hold at the disposal of industry the large collection of unpublished documents, interest in which has recently revived on account of the valuable information they contain on the production and use of substitute materials.

A small Technical Section is available to assist with the selection of material to meet specific needs, whilst a reading room is provided for those wishing to make a detailed study of drawings and documents. Alternatively photocopies can be supplied at moderate charges.

T.I.D.U. will be represented at the British Industries Fair on Stand W.2 at Earls Court and Stand B.425 at Castle Bromwich, where full information can be obtained about the service provided.

## COMING EVENTS

*Victoria and Albert Museum*

● March 28, at 6.15 p.m. "The Great Exhibition of 1851." Speaker: C. H. Gibbs-Smith.

*Institution of Structural Engineers*

● March 29, at 5.55 p.m. "The Construction of the Royal Festival Hall." Speakers: E. Roland Hole and F. C. Eales.

# IN PARLIAMENT

## Building Standards

THE exhibition of designs for houses to cost £1,000 or less, held at the County Hall, led three M.P.s to question the Minister of Local Government and Planning. Mr. Lionel Heald wanted to know whether, after studying the exhibition, the Minister was prepared to accept the principle that building standards should be made sufficiently flexible to allow local authorities to provide good houses in larger numbers and at rents that council tenants could afford; Mr. Bossom wanted the Minister to instruct his experts to get suggestions, either from the exhibited designs or other sources, for modifications in the housing regulations which were making houses too costly for many people; and Mr. Harmer Nicholls wanted the Minister to recommend the successful design to all local authorities, with a view to obtaining more houses from a given quantity of materials and reducing the cost of the average three-bedroom house from £1,400 to £900. **Mr. Dalton** replied to them all that he and his advisers had inspected these plans. Subject to local by-laws, it was open to private builders to adopt any of these plans for houses built under licence. He intended shortly to issue a circular to local authorities on the design of council houses. (Mar. 13.)

## New Colonial Office

**The Minister of Works** was questioned further on March 13 about the proposed new Colonial Office to be built opposite Westminster Abbey. He stated in reply to Brigadier Medlicott that he was aware of the general interest about whether the new building would harmonise with the Abbey and other nearby buildings, and was arranging that a rough block model showing the outlines and proportions of the revised scheme to be available for inspection by M.P.s. Mr. Sandys's question suggested the public exhibition of a model, so that a further opportunity might be given for the expression of public opinion on the suitability of the plans. To this **Mr. Stokes** replied that the proposals had been fully discussed in both Houses of Parliament; and he did not think he would be justified in delaying still further the preparation of new plans or incurring further expenditure on a detailed model for public exhibition. Answering Mr. Ellis Smith, he stated that the site of the old Westminster Hospital was purchased from Laing's Properties Ltd. for £405,000, and the proposed new Colonial Office would cover about half the site.

## Carlton House Terrace

Mr. Hollis inquired the reasons which had led the Commissioners of Crown Lands to the conclusion that Carlton House Terrace was not suitable for embassies, clubs, flats, or hotels (as stated in the Lords debate reported last week). **Mr. Tom Williams,** Minister of Agriculture, who answers for the Commissioners, said that the future of these buildings had been the subject of consideration and consultation between the Departments concerned on many occasions. The only formal consultation on user was with the Crown Lands Advisory Committee in 1933. That Committee recommended residential user, which included embassies and clubs of good standing. They stated that while they would reject blocks of flats or redevelopment, and would rigidly exclude hotels, they would not object to the conversion of any existing house into flats. The Commissioners considered several schemes for conversion into flats, but none of these was approved and the Commissioners were professionally advised that satisfactory conversion must be considered impracticable. The Commissioners had not regarded the houses as unsuitable for embassies or clubs. and some of them were let for those purposes before the war; but for other houses lessees for embassy or club use were not forthcoming, and the Commissioners reached the conclusion that there was no prospect of letting all the houses for those uses. (Mar. 15.)

## Conversion of London Houses

Lieut.-Col. Lipton asked the Minister of Local Government and Planning in how many roads in the county of London he had decided that no houses should be converted for occupation by more than one family; and how many houses were involved. **Mr. Dalton** replied that he had made no such decision, and he considered it would be wrong to control the conversion of houses into flats, in the county of London or elsewhere, by the application of a rigid rule. In the present housing situation it was essential that full use should be made of existing dwellings, particularly where they were too large to be occupied by single families and were otherwise suitable for conversion into flats. Proposals for the conversion of such houses should be encouraged by local planning authorities in all appropriate cases. (Mar. 13.)

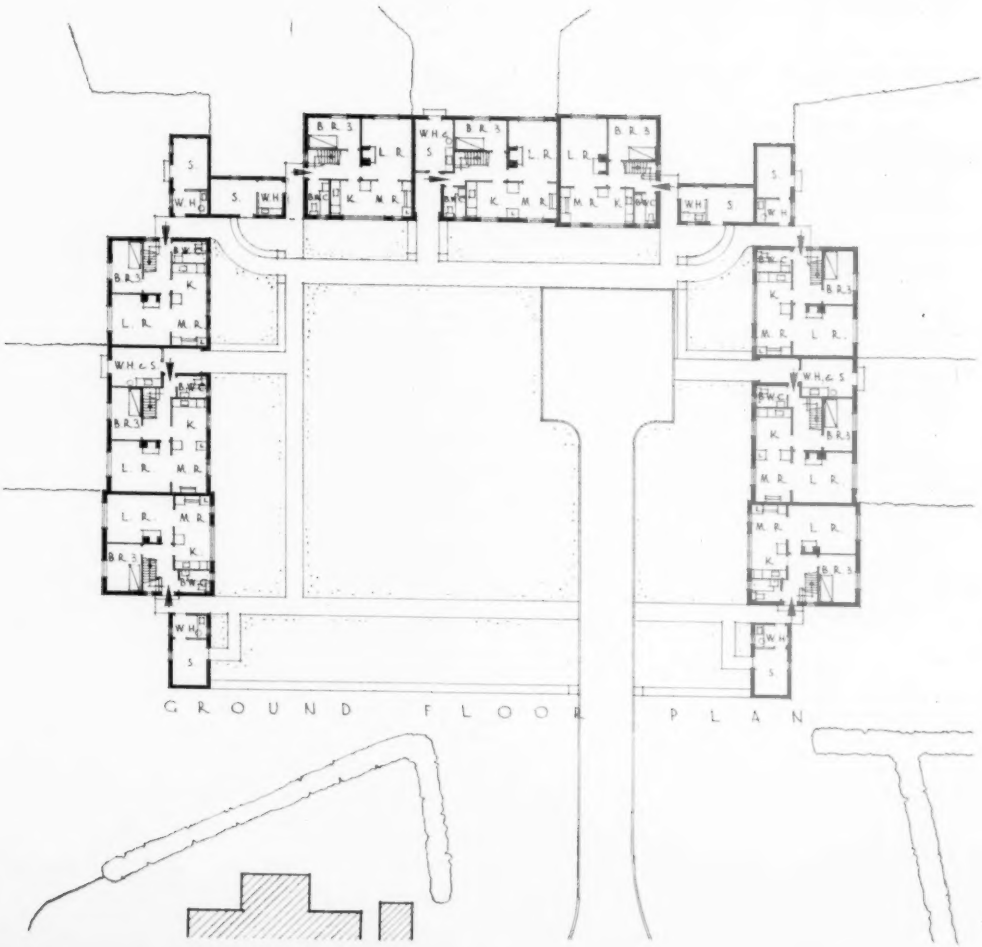
## Government Office Building

**Mr. Stokes** informed Sir Ian Fraser that 7,144,000 square feet of office accommodation was at present under construction or licensed to be constructed in the country, of which 5,157,000 square feet was for Government use, 3,222,000 square feet for private use, 372,000 square feet for local authorities, and 393,000 square feet for public utilities. (Mar. 13.)

## The Tarran House

Mr. Rankin asked the Secretary of State for Scotland if he had now decided what contribution the Tarran house would make towards solving Scotland's housing problem; and if he would recommend it to local authorities. **Mr. T. Fraser,** the Under Secretary, said the Secretary of State had already approved a permanent concrete 4-apartment bungalow sponsored by this firm, and had brought it to the notice of the local authorities. The firm's proposals for producing a cheaper type of bungalow had been substantially modified, and he expected very shortly to receive a report which would enable him to decide whether it could be approved for housing purposes. (Mar. 13.)

# COTTAGES AT HOW LANE CHIPSTEAD



architect:

ARTHUR W. KENYON

C.B.E., F.R.I.B.A., M.T.P.I.

*THIS is a small site situated opposite the Chipstead Golf Course and overlooking the green belt, which lies on the east side. It was restricted by covenant to a maximum of 9 houses and it was agreed by the Banstead Urban District Council that these should be built to a rural type, i.e., with washhouses etc.*

*The nine houses are linked together in the form of a quadrangle with a minimum of road work. The narrow road and small turning-space has proved quite sufficient for the needs of this small scheme.*

*In the planning of the houses it will be noted that one bedroom and bathroom has been put on the ground floor in every case while the upstairs bedrooms are totally in the roof space.*

*Each has a shed and washhouse adjacent to it which forms the lower link of the quadrangle.*

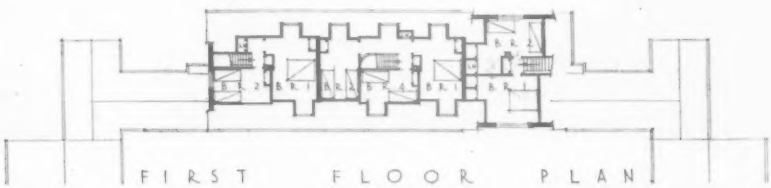
*The meals room is en suite with the living room and the two together form a through room with front and rear aspects. The kitchen has been fitted out with a small fitment, comprising sink, drainer top, cupboards, and plate rack. The original design included a built-in cooker, but this was omitted on the grounds of cost, and has been left to the tenant to provide.*

## CONSTRUCTION

*Walls: 11 in. cavity brickwork finished externally in two coats of Snowcem. Roof: Timber rafters covered with felt and pantiles. Ground floors are solid with pitch mastic finish. First floors are timber joists and boards.*

*GENERAL CONTRACTORS:* W. INGRAM & SON.

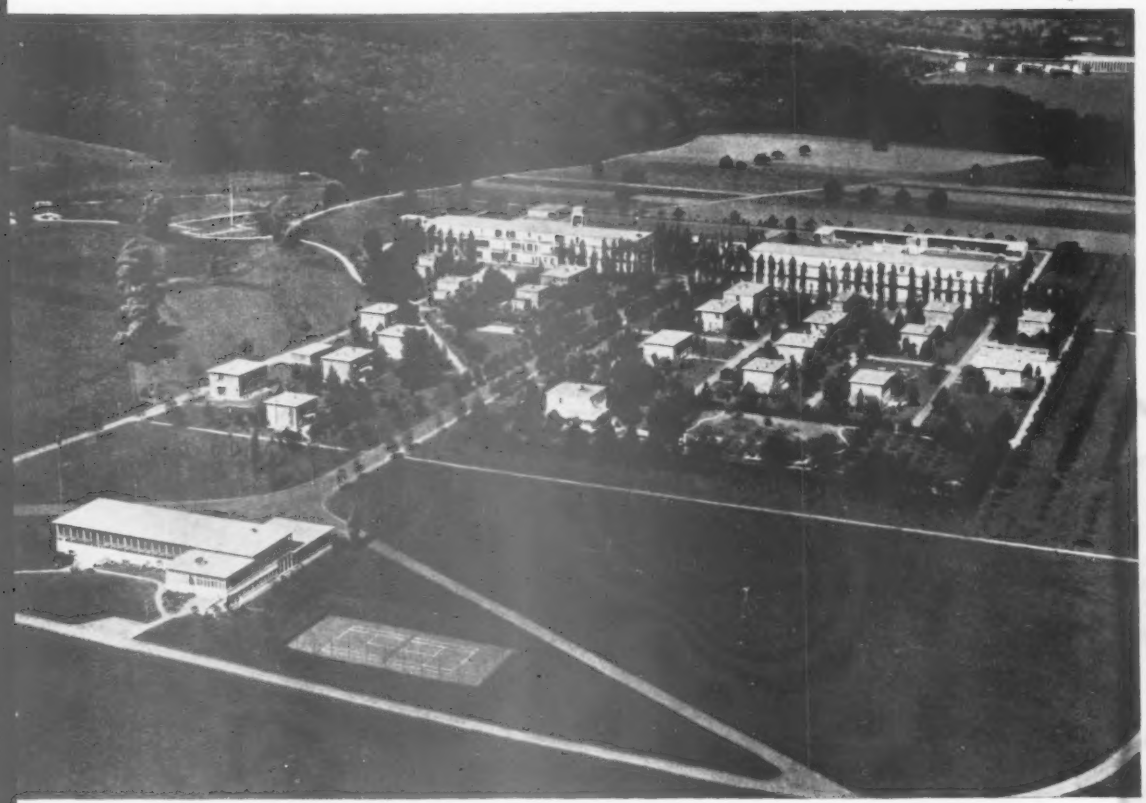
*Electrical:* F. W. Blanshard Ltd.
*Floors:* General Asphalte Co. Ltd.
*Ironmongery:* Lockerbie & Wilkinson Ltd.
*Metal Panels and Hot Water Cylinders, etc.:* Fredk. Braby Ltd.
*Sanitary Fittings:* Dent & Hellyer Ltd.
*Stoves and Surrounds:* Bratt Colbran Ltd.
*Tiling and Bricks:* Henry J. Greenham (1929) Ltd.
*Windows and Doors, etc.:* Newsum Sons & Co. Ltd.



FIRST FLOOR PLAN

1 CROSS SECTION. Scale : 8 ft. = 1 in.

COTTAGES AT HOW LANE, CHIPSTEAD



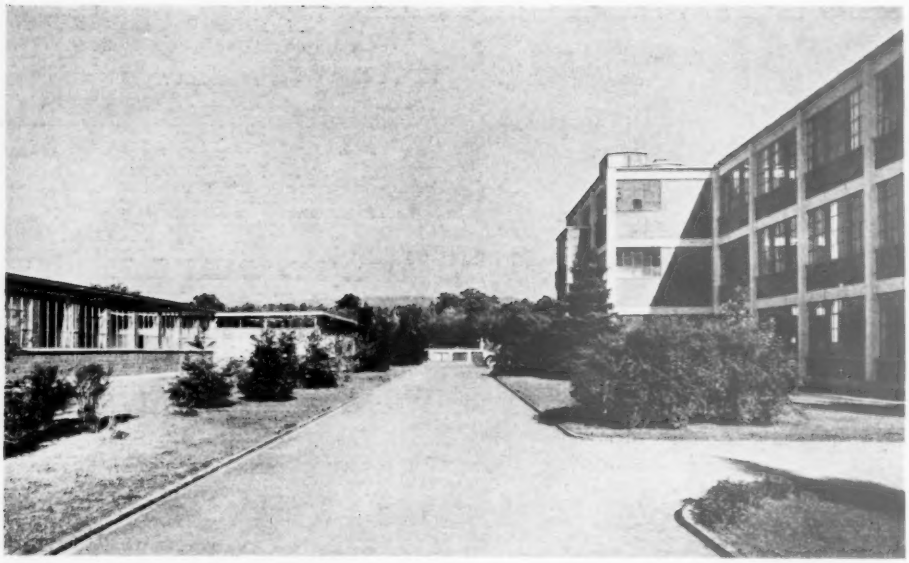
## THE BATA SHOE FACTORY, MOHLIN, SWITZERLAND

architect:
HANNIBAL NAEF

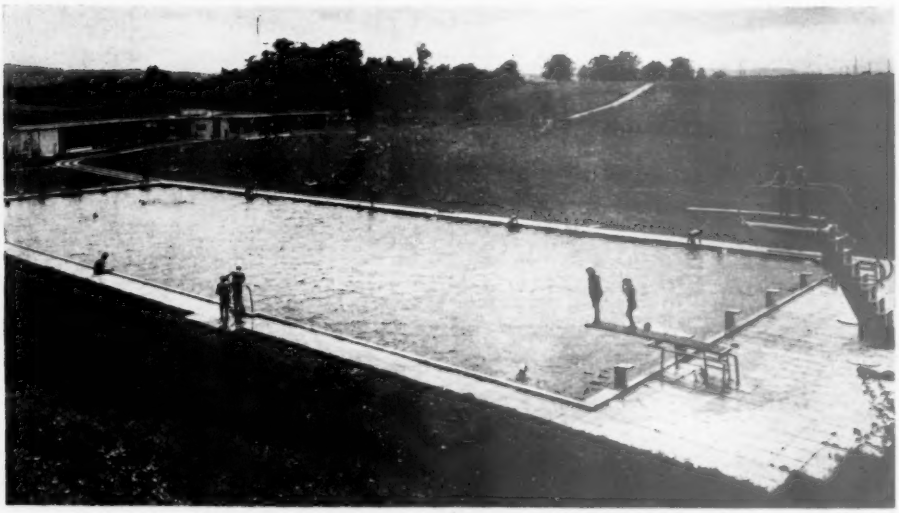
*THIS self-contained industrial estate comprises workshops of steel frame and brick infilling construction, and blocks of offices and store accommodation of concrete frame construction designed on a 6.15 metre unit.*

*To the south of the factory blocks is the housing estate of brick houses for from one to four families and provision for bachelor flats. Services include cooking,*

F. FACTORIES
W. HOUSING ESTATE
G. ALLOTMENTS
C. CLUB
S. SWIMMING POOL
K. CHILDREN'S PLAYGROUND



*The Factory Building is shown on the right with workshop on left.*



*The Swimming Pool*

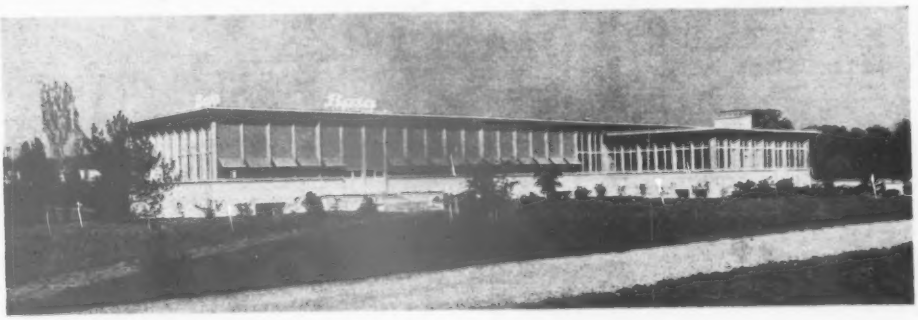
heating and refrigeration by electricity. Social requirements are provided for by a club which has dining and tea rooms, billiards rooms and a cinema. This block is also of reinforced concrete construction. There is plenty of open space for recreation and a swimming pool and a children's playground.

## BATA SHOE FACTORY AT MOHLIN

One of the two-family houses

The children's playground

The Club House. The view below shows the Club from the south with the Conference Room on the right.



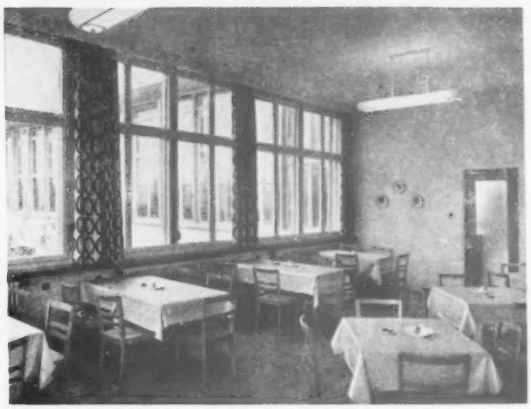
BATA

FACTORY

Below :

*The Club Dining Room*

*The main stair in Club*

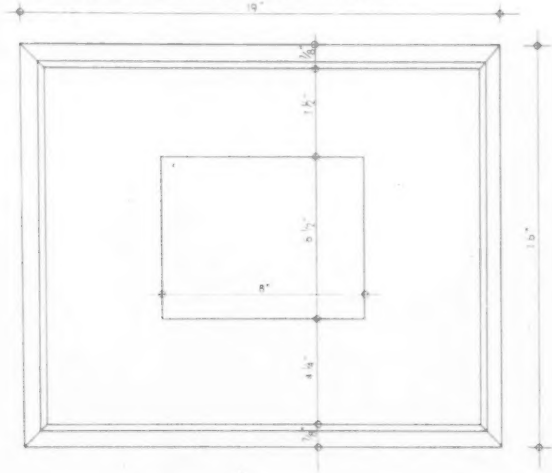


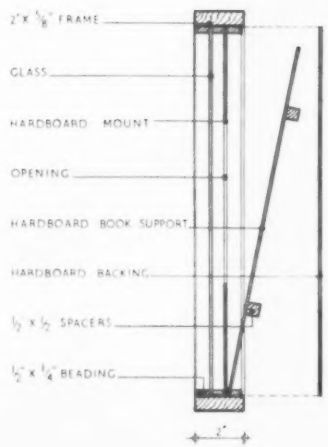
*Above :*

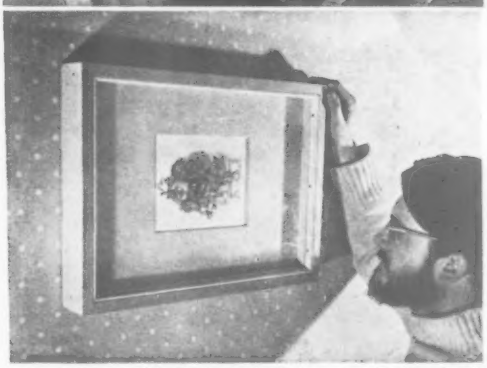
*Club tea-room*

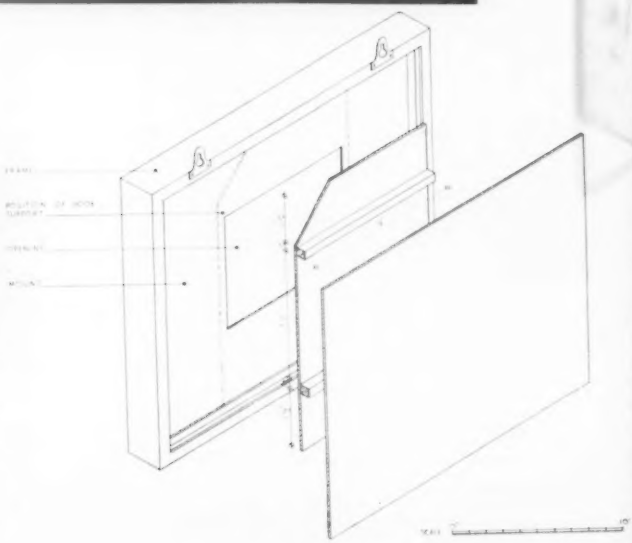
*Main kitchen in Club*

*Employees' dining room in small Club room.*







*Schools and institutions will be interested in these simply constructed frames. They are designed to display the pictures from the Penguin Modern Painters series. As the books themselves are merely folded they can also be kept for library reference. Thus for a small outlay a comprehensive collection of pictures is available. This prototype frame was made at the Polytechnic School of Architecture, Surveying and Building, Regent Street, and was designed by a member of the staff, G. Earle Wickham, A.R.C.A., who is responsible for teaching colour and visual research. The drawings and photographs are self explanatory—the back board being retained by clips to hold everything in position. Surfaces are painted matt off-white colours—warm greys generally being most suitable. (Photographs by Maurice Kelly, A.R.C.A.)*

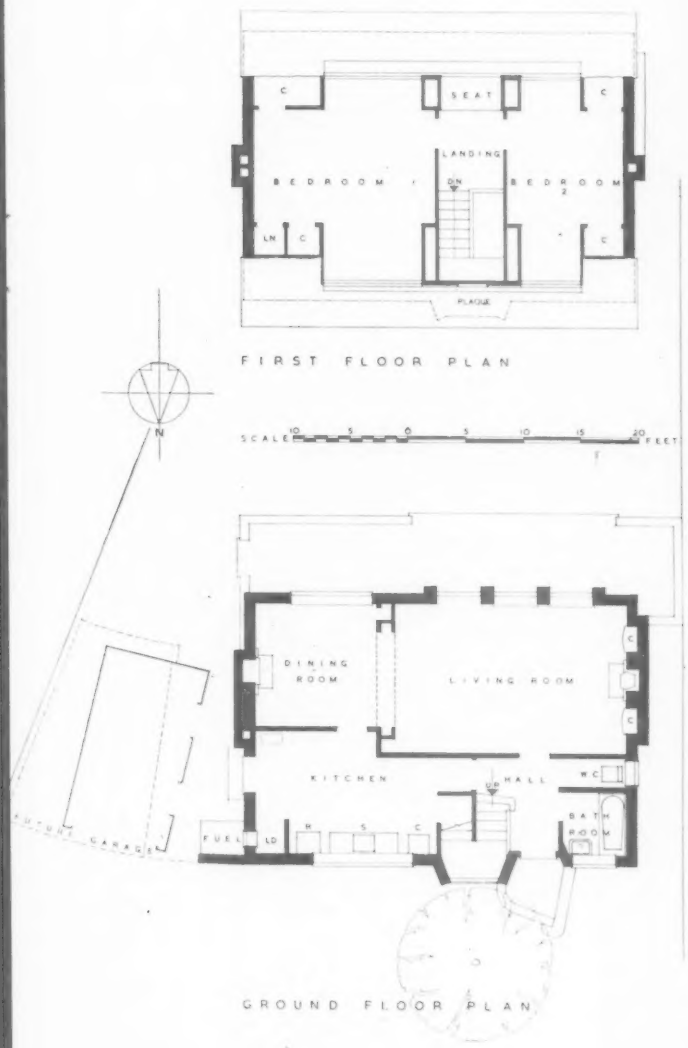
# HOUSE AT SIDCUP KENT

*architect*
OLIVER E. STEER
A.R.I.B.A., A.M.T.P.I.

THE house was restricted to 1,000 ft. super by the licence which took two years four months to obtain, and excluded the garage. Ample storage space was a specific requirement, as the owner was moving from a larger house.

To give interest to the front, the staircase is lighted by a panel of lenses with ribs painted bright blue, to contrast with a lemon yellow door, other paintwork being blue-grey. The panel between the dormer windows is of green Westmorland slate decoratively carved with the date.

The living and dining rooms face south overlooking the garden, they are finished with rough wood float lime plaster of pleasing texture, the illuminated alcoves either side of



the marble fire surround are designed in sympathy with the owner's central mirror, to display her cut glass ware to advantage. The floor to these rooms is oak parquet, and to the kitchen bitumastic tiles.

An inset "Siesta" stove heats the dining room and coupled with a gas heater provides domestic hot water throughout the year.

Gas and electric meters are read from the small cupboard door shown in the staircase photograph above.

The lowest tender received was £2,386. Development charge £240.

* * *

*The General Contractors* were: Messrs. Campkin & Pearce, Bexleyheath.

*Oak Floor:* Onsite Flooring Company.

*Accotile Floor:* Messrs. Armstrong Cork Co. Ltd.

# Information Digest

## OFFICIAL PUBLICATIONS

● **B.R.S. Digests Nos. 24, 25, 26 and 27.** Issued by the Building Research Station, Garston, Watford, Herts. Price 2d. each (Annual Subscription 2/6 incl. postage).

### No. 24. Granolithic Concrete Floors.

Granolithic concrete is probably the material most widely used for factory and other heavy duty floors. It has long life even under conditions of severe wear, when properly laid. The number of inquiries received by the B.R.S. concerning the failure of granolithic floors, often within a year of laying, indicates that the precautions which need to be taken to ensure a satisfactory floor are not sufficiently well known. The early failure of a factory floor is a serious matter, resulting in loss of production, as well as the cost of premature renewal, all of which far exceed the cost of adequate care during laying operations.

This Digest suggests that the laying of granolithic floors, in common with other types of jointless flooring is the job for the specialist and that although opinions differ on certain details of technique there is agreement on the general lines to be followed.

The important factors are: the sub-floor, which should be of good quality clean concrete with an adequate key for the granolithic surfacing; the mixing of the granolithic finish using the correct proportions of properly selected materials; the proper laying of the material to an adequate thickness in bays of not more than 150 ft. super; and adequate curing for at least 7 days in mild weather (longer in cold weather). The Digest gives detailed recommendations on each of these points together with advice on the maintenance of granolithic floors, a special note is included emphasising the importance of adequate site control during laying, particularly in relation to the dangers of using too wet a mix.

### No. 25. The Selection of Clay Building Bricks

The purpose of this Digest is to assist users in selecting bricks. The durability of a brick is largely determined by the position in which it is used, varying from positions of extreme exposure such as retaining walls, freestanding walls, and parapets to protected positions such as the inner leaf of a cavity wall. The Digest deals with facing bricks for use below ground damp-course, and common bricks, and devotes a considerable amount of space to the problems of efflorescence, soluble salts, and frost resistance. Reference is made to brickwork which is to be plastered or colour washed.

### No. 26. Blowing, popping or pitting of internal plaster

The terms "blowing," "popping" or "pitting" are used to describe the appearance of a particular type of defect in internal plaster work. The first indication of this defect is a bulge on the plaster face, followed by a circular crack; the plaster inside the circle lifts and finally drops out leaving a conical hole. Where these defects are small in size, i.e., less than ½ in. in diameter, the cause is usually in the material of the finishing coat, with defects of larger size, i.e., from 2 in.-3 in. the cause is usually in the undercoat. The defect may appear within a few weeks of the completion of plastering but it may be delayed for months or even years. There are several causes of this defect, but the most common is the expansion that accompanies the slaking of the quicklime present in the applied plaster and usually originating in the lime used in the plastering mix. Blowing has also been found in plaster on clinker blocks or in-situ clinker concrete due to the presence of calcium oxide, present in the clinker itself rather than the plaster. The Digest discusses the causes, detection, treatment and avoidance of blowing in plastered finishes.

### No. 27. High Alumina Cement

This Digest gives notes about Aluminous cement, its nature, manufacture, properties and use. A number of charts are included showing the crushing strength of high alumina cement concrete, etc. This cement is especially useful for emergency work or concreting in cold weather because of its early and rapid strength development. When properly used it is practically immune from attack by the mineral sulphates found in the soil in some parts of the country, and by some aggressive agents found in factories. It has fair resistance to some dilute acids but is attacked by alkalis. It is extensively used in conjunction with heat resistant aggregates to produce "refractory concrete."

In view of the lack of familiarity with the properties and uses of Aluminous cement, in the Building Industry, this Digest treats the subject in general terms, and suggests that for specialised or detailed cases, the advice of the manufacturers should be sought.

● **British Standard Codes of Practice.** Issued by the British Standards Institution, 24/28 Victoria Street, S.W.1.
**Board and Sheet Covering. (External). Draft for Comment.** Price 10 - post free.

This Code has been prepared for the Council for Codes of Practice for Buildings by a Committee convened by the Royal Institute of British Architects. The Code includes six sub-codes: Board and Sheet coverings (External); Weatherboard coverings; Sheet metal coverings (weather resisting); Asbestos-cement coverings (weather resisting); Plywood coverings (weather resisting); Wood wool slab coverings (weather resisting). Each sub-code contains the usual six sections dealing with general considerations; materials; appliances and components; design considerations; work on and off the site; inspection and testing; and maintenance. The Code represents a standard of good practice and takes the form of recommendations. Compliance with it does not confer immunity from relevant legal requirements, including byelaws.

**Ventilation. C.P.3. Chapter I (1950). Codes of Functional Requirements of Building. Chapter I (C).** Price 2/6 post free.

The Council for Codes of Practice for Building has now issued in its final form Chapter I (C) Ventilation. The chapter deals with requirements for the ventilation of buildings for human occupancy in relation to the rate of fresh air supply, air movement, temperature of incoming air, humidity and purity of air. Recommended rates of fresh air supply are given for a number of different types of buildings including factories, offices, flats, hospitals, etc. The design of ventilating systems is dealt with in the General Series Codes, but the appendices to this chapter give useful information on the general principles of natural and mechanical ventilation and the factors governing the choice between the two systems. The Code follows the standard format and layout for these documents.

**Hydrant Systems. Draft Code 402: 101. Draft for Comment.** Price 2 - post free.

This Code was prepared by a Committee convened by the Institution of Mechanical Engineers, and deals with the installation of hydrant systems in buildings, and refers to the various authorities with whom the architect or engineer should confer at an early state in the design or planning of a building in relation to hydrant systems. The Code gives details of appliances and components and a list of the relevant British Standards. Recommendations are made concerning water supplies, location of appliances, design and selection of hydrants, etc. The importance of testing and inspection of hydrant systems at regular intervals is emphasised and notes on the maintenance of hose, couplings, valves, etc., are included in the Code. The Code is in draft form, and subject to amendment in the light of comments received.

**Internal Coverings and Rigid Infillings.** Sub-codes 124.301, 124.309, and 124.401. Price 5 - post free.

This document consists of three sub-codes: Timber Coverings (Internal); Cork Slab Coverings (Internal); and Rigid Infillings for Framed Partitions; and should be read in conjunction with Code 124. "Walls and Partitions of Framed Construction (external and internal)."

The first sub-code includes a list of suitable types of timber with notes on quality, moisture content, fire retardants, and materials for joint treatment. The second sub-code deals with baked cork slab coverings in a similar manner, giving sound insulation values, sound absorption co-efficients, etc., for cork slab covered partitions. The third sub-code deals

with rigid infillings to partition frames of timber, metal, or reinforced concrete, of brickwork, hollow glass blocks, wood-wool slabs, cork slabs, etc. The principal advantages of a rigid filling used with a framed partition are given, with information on the relationship between framework, infilling and covering, avoidance of cracking, strength, coverings, and fixing of infillings. The code is in draft and is subject to amendment in the light of comments received.

● **National Building Studies. Technical Paper No. 9. Test Walls for Assessing Construction Times with New Building Blocks.** Issued by H.M.S.O. Price 9d.

Technical Paper No. 9, by W. Kinniburgh of the Building Research Station, gives details of recent experiments carried out by the B.R.S. in connection with testing of new types of building blocks. A specially devised small scale test wall is built, which includes all the main features of construction of a full-scale house, but involves only a fraction of the work necessary on a full scale test. The construction times for the test wall taken in conjunction with existing data concerning other types of block can provide a reliable assessment of the construction time to be expected when the new block is used for normal construction.

● **Appointments in His Majesty's Colonial Service** Published by H.M.S.O. Price 2/-.

This publication is intended primarily as a guide for persons resident outside the Colonies themselves, who wish to have information about appointments in the Colonial Service. Pages 32-38 give details of appointments, conditions of service and salary grades in the Colonial Engineering service including appointments for Architects and Town Planners.

● **The Preservation of Relics and Records.** Issued by the British Transport Commission, 55 Broadway, Westminster, London, S.W.1. Price 1/6 net.

This report of a Committee on transport relics and records has been submitted to the British Transport Commission who have accepted it in principle. The chief recommendations contained in the Report are that a Museum for smaller relics such as prints, pictures, seals, etc., should be established in the Shareholders' Meeting Room at Euston; and that the existing museum at York should ultimately specialise in the Railway history of the North of England. It is recommended that the collection of railway exhibits at Edinburgh should be expanded to form a small Scottish museum and in due course a collection formed at Cardiff dealing with Welsh Transport History. The Committee suggests that a permanent British Transport Museum should be set up in London, and that the old Terminus of the London and Southampton Railway at Nine Elms designed by Sir William Tite in 1838 would be suitable, and would allow large exhibits to be properly displayed. The Commission possesses a vast collection of important historic records relating to British Transport including prints, drawings, and books as well as many important old buildings and structures. It is proposed that the Tranpsort Commission should set up an Advisory Council to watch over general policy in connection with Historic Records and Relics, and that this should include relevant outside bodies including the Royal Institute of British Architects.

## BUILDING MATERIALS

● **Smith's Fireproof Floors.** Issued by Smith's Fireproof Floors Ltd., Imber Court, East Molesey, Surrey. Free.

This pamphlet describes the precast concrete block floor made by this Company. The floors are suitable for a wider range of spans and loadings, and comply with the requirements of the L.C.C. and the leading Insurance Companies. The hollow concrete blocks are supported by Patent Telescopic Centres, which can be laid at a rate of 100 square yards per hour.

● **The Carter Quarterly. Tiling in Post-War Schools.** Issued by Carter & Co. Ltd., Poole and London. Free.

This attractively presented booklet contains photographs of post-war schools in which Carter's tiles have been used. The illustrations are excellent and show the greatly improved standard of architecture in school buildings, and the greater attention paid to design detail in cloakrooms, lavatories and kitchens.

## FURNITURE AND EQUIPMENT

● **Furniture for Special Needs.** Issued by Heal's Contracts Ltd., 196 Tottenham Court Road, W.1. Free.

Heal's new brochure contains photographs of some of their recent contracts for specially made furniture, which include the furnishings for the Senate House, University of London; the Haywain Restaurant Haymarket, a particularly attractive interior designed and executed by Heal's Contracts Ltd., and furniture for the International Civil Aviation Organisation, Montreal. The standard of workmanship revealed by the illustrations maintains the high level set by this firm.

● **Technical Bulletin No. 1. 1951.** Issued by the Technical Information Service of the Furniture Development Council, 11 Adelphi Terrace, Robert Street, London, W.C.2. By subscription 30/- for six copies.

This Bulletin consists of a large number of summaries of of articles and reports which have appeared in the scientific, trade, and technical press, which should be useful to designers and craftsmen connected with the furniture Industry. The Bulletin is contained in a stiff cover which is intended to take the first year's issue of the Bulletins which will be published at bi-monthly intervals. The Furniture Development Council is concerned only with domestic furniture, and is maintained by the Furniture Industry, although the D.S.I.R. have decided to make a substantial grant towards the cost of the Information Service of the Council. The bulletin is exceptionally well produced, with a standard of typography much higher than usual for this type of publication, which is all too often presented in a careless manner.

## LIGHTING

● **Atlas Display Lighting.** Issued by Thorn Electrical Industries Ltd., 105/109 Judd Street, London, W.C.1. Free.

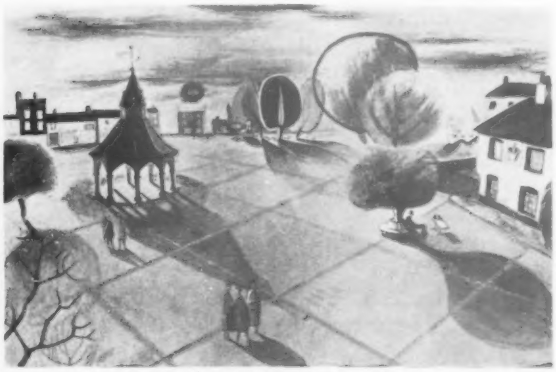
This brochure illustrates some of the types of display lighting for shops designed by Thorn Electrical Industries Ltd. All the systems are based on the use of fluorescent lamps, which can be dimmer controlled, and are available in a number of colours. The louvred ceiling illuminated by fluorescent lamps popular in American stores, is also carried out by this firm.

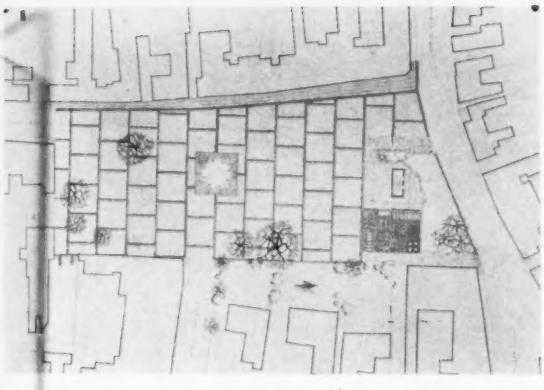
● **A Memorandum on Lighting in Industry.** Prepared by the Lighting Service Bureau, 2 Savoy Hill, W.C.2. Free.

This useful little booklet is based on a Report submitted by the Lighting Service Bureau to the various Working Parties set up by the President of the Board of Trade. The Memorandum deals with Factory Lighting Legislation and summarises the general requirements of good industrial lighting. It has been prepared for the guidance of those concerned with the problems of welfare and production efficiency. The recommendations made are based on a considerable accumulation of data over a long period, and as the factors involved are not generally appreciated, the report shows the considerations on which the recommendations are based. The Report is in the following sections. 1. The Principles of Good Lighting. 2. Review of Present Factory Lighting Standards and Practice. 3. Lighting Recommendations: Appendices (a) Explanation of Technical Terms; (b) Lamps and Lighting Costs; (c) Colour in Industry. This booklet with its excellent illustrations and valuable advice can be thoroughly recommended to all architects concerned with Industrial Buildings.

● **Ultralux, Versalite, Tubalux and Mondolite, Lighting Fittings.** Issued by Troughton & Young (Lighting) Ltd., 143 Knightsbridge, S.W.1. Free.

Messrs. Troughton & Young have now issued their new catalogues covering their four ranges of lighting fittings. These ranges include many of the well established designs





DEVELOPMENT OF THE MARKET SQUARE, BINGHAM

*Third year students of the School of Architecture, College of Arts and Crafts, Nottingham, were set as an essay in the detailed visual aspects of Town and Country Planning the task of preparing schemes for the layout of the market square of a small market town near Nottingham. The designs were shown and explained to the Bingham Council and it is hoped that some of the students' suggestions will be incorporated in the rehabilitation of the square, the primary object of which is the re-surfacing of the square and the provision of a calling point for bus passengers. In the research stage the whole third year worked as one group. In the preparation of drawings the year was divided into four groups each with a fifth year student attached. Drawings required were: A, Layout plan to $\frac{1}{16}$ scale; B, Three-dimensional studies in colour of the whole square; C, Ditto of various parts; D, Design details of street furniture, etc.*

---

prepared by this Company, but the majority of the illustrations are of new models to meet contemporary needs. An important feature of all the new series is the wide interchangeability of parts to give variations in design. Most models are made in progressive sizes for lamps of varying wattage. Although aluminium is used in the construction of many of the fittings, the Company claim that they are still able to make good delivery on most of the fittings. The design standard of the fittings, and the catalogues illustrating them are consistent with the high level which architects have come to expect from Messrs. Troughton & Young, and together they form a most stimulating display of lighting fittings which are unequalled in any country in the world. Many of the designs shown are as good as any produced in Sweden or Switzerland and the prices generally appear to be reasonable. It is safe to prophesy that this new range of fittings will be as widely used by all contemporary architects as earlier designs by the same firm.

## MISCELLANEOUS

- **Planning the Library.** Published by Roneo Ltd., 17 Southampton Row, London, W.C.1. Free.

This Roneo publication can be strongly recommended to architects; it deals with the layout and construction of library furniture and equipment, with a strong emphasis on the suitability of steel equipment. A considerable amount of information is given concerning sizes of book stacks, shelving, book conveyors, storage for maps, films and gramophone records. It is a comprehensive little guide containing many useful diagrams and photographs. Recommendations are made concerning lighting, heating, ventilation, lifts, staircases, and colours.

- **Hospital Planning.** Issued by the Architectural Association, 34/36 Bedford Square, London, W.C.1.

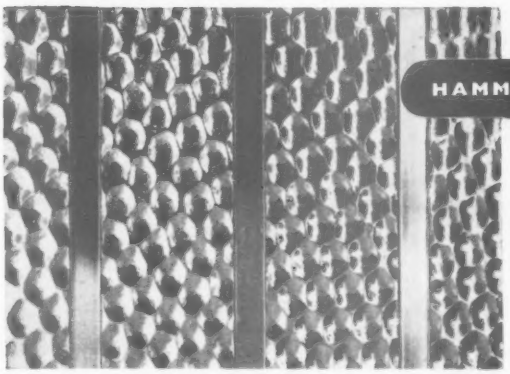
A limited number of copies are available of the Summary of the Communications and Discussion at the Post-Graduate Symposium on Hospital Planning organised by the A.A. on September 6, 1950. The publication contains a summary of the President's Introduction, the ten communications given by various experts on Hospital design, and discussion following each paper.

## ALSO RECEIVED

- **Forest Products Research. Report for 1948.** Published by H.M.S.O. for D.S.I.R. 2/- net.
- **Purpose and Practice.** Issued by INTEL. Address not stated. Free.

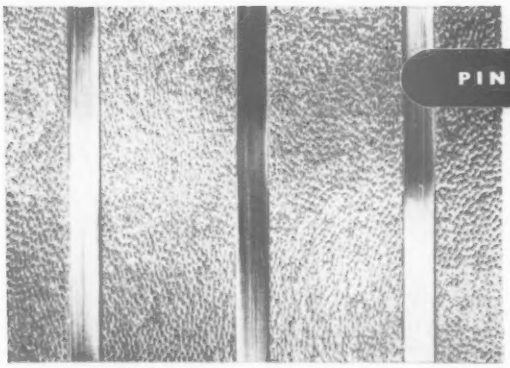
# 2 MORE PATTERNS

## of Figured Rolled Glass



**HAMMERSTRIPE**

A Figured Rolled Glass of the Formal Group. Diffuse light transmission—82 per cent. So far as diffusion and obscuration is concerned, the glass corresponds closely to its own parent, No. 3 Hammered. The superimposed stripe has less effect on the diffusion than it has on the obscuration powers of the glass.



**PINSTRIPE**

A Figured Rolled Glass of the Formal Group. Diffuse light transmission—82 per cent. So far as diffusion and obscuration is concerned, the glass corresponds to its own parent, Pinhead Morocco. The superimposed stripe has less effect on the diffusion than it has on the obscuration powers of the glass.

It should be noted that although the parent glasses (No. 3 Hammered and Pinhead Morocco) fall into the Non-Formal Group, the superimposition of the stripe alters the glass fundamentally and brings them into the Formal Group.

**SUPPLIES OF THESE NEW GLASSES ARE AVAILABLE THROUGH THE USUAL TRADE CHANNELS.**

*Consult the Technical Sales and Service Department at St. Helens, Lancs, or Selwyn House, Cleveland Row, St. James's, London, S.W.1. Telephone: St. Helens* 4001; *Whitehall* 5672-6.

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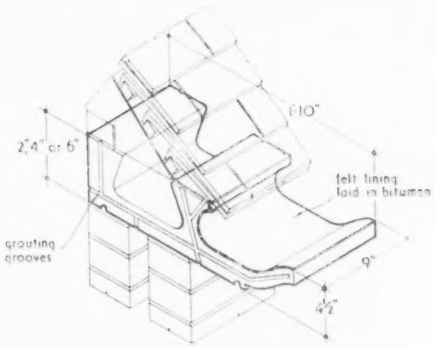
# Winning Designers use
# FINLOCK GUTTERS




Standard Type "G" Gutter Block

## in "The Builder" Low Cost Housing Competition

*Extract from the report of the winning Architects:*—
J. L. WOMERSLEY, A.R.I.B.A., A.M.T.P.I., and G. HOPKINSON, B.Arch., A.R.I.B.A., A.M.T.P.I. Borough Architect and Deputy Architect respectively to the County Borough of Northampton.

EAVES: "The use of the Finlock Gutter and precast eaves block saves timber, labour and cost and provides an aesthetically satisfying treatment . . ."

"The gutter blocks have been fixed as low as practicable, walling being saved by keeping the ceiling joists above the wall plate, and thus allowing a small splay or cove in the ceiling."

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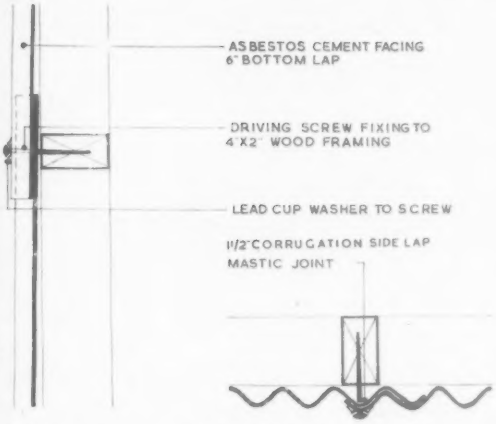
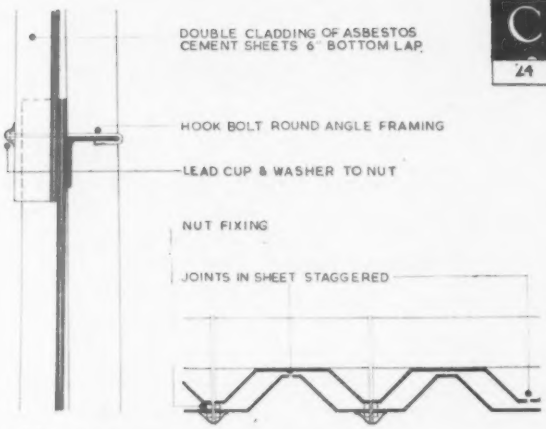
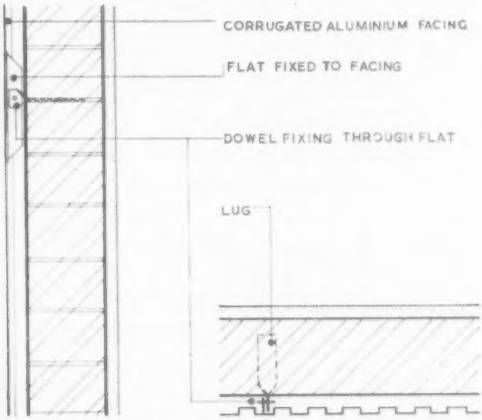


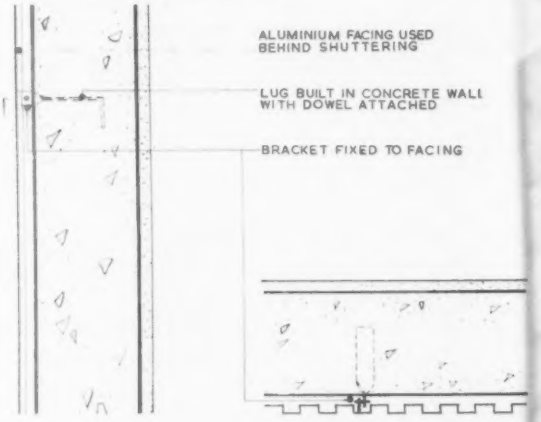

① ASBESTOS CEMENT SHEETS


DOUBLE CLADDING OF ASBESTOS
CEMENT SHEETS 6" BOTTOM LAP.
HOOK BOLT ROUND ANGLE FRAMING
LEAD CUP & WASHER TO NUT
NUT FIXING
JOINTS IN SHEET STAGGERED

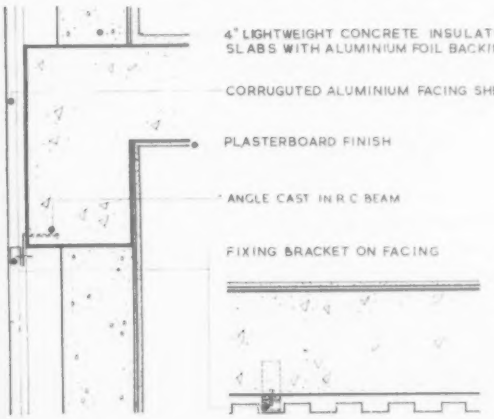
② ASBESTOS CEMENT SHEETS



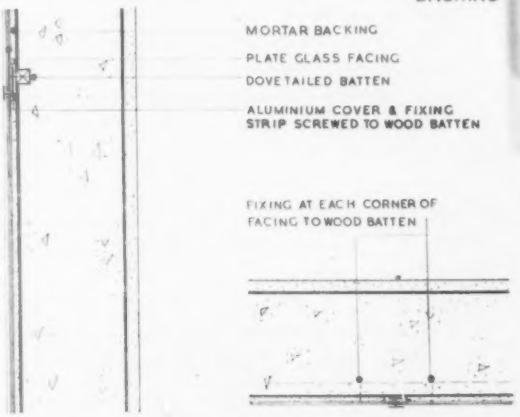

③ CORRUGATED ALUMINIUM FACING ON BRICK BACKING




④ CORRUGATED ALUMINIUM FACING ON CONCRETE BACKING


4" LIGHTWEIGHT CONCRETE INSULATING
SLABS WITH ALUMINIUM FOIL BACKING
CORRUGUTED ALUMINIUM FACING SHEET
PLASTERBOARD FINISH
ANGLE CAST IN R.C BEAM
FIXING BRACKET ON FACING

⑤ CORRUGATED ALUMINIUM FACING FIXED TO STRUCTURAL FRAME




⑥ PLATE GLASS FACING TO CONCRETE BACKING

# CONSTRUCTION SHEET L.14, C.24.

## Editorial Notes

*This sheet shows details of the fixing of facing materials to various backings.*

**1.** *A driving screw is used to fix the asbestos cement sheeting to the timber framing and a lead washer and lead cup washer protect the hole made by the screw. A one and a half corrugation minimum side lap is required for the sheets, the bottom lap should be 6 in. minimum. The joint between sheets is pointed with a mastic compound. Standard asbestos cement sheets are usually 2 ft. 6 in. wide and are obtainable in lengths up to 10 ft.*

**2.** *A 3/16 in. diameter bolt is used for fixing the asbestos-cement cladding to the angle framing, two washers being employed as before. The side joints in the sheets need not be lapped, but the joints should be staggered.*

**3.** *This detail shows an aluminium facing to a brick backing. The fixing lug is built into the wall, and the flat attached to the facing is fixed to the lug by means of a dowel.*

**4.** *The aluminium facing in this detail would be placed behind the shuttering before the concrete of the wall is poured. A lug is fixed to a flat on the aluminium facing and positioned before concreting.*

**5.** *The facing in this detail is fixed to a metal angle which is cast in the reinforced concrete beam. The insulating walls of 4 in. lightweight concrete are built after the aluminium facing is fixed.*

**6.** *Pressure-creosoted dove-tailed wood battens are set in the concrete wall and an aluminium cover strip is then screwed to the battens. The glass facing is placed in position and the cover strip at the top of the sheet is fixed. For small glass sheets, it would be sufficient to fix at each corner, but with larger sheets additional fixing to the battens would be required.*

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**We welcome comments from readers. These will be summarised and published. Letters should reach us as early as possible to avoid time lag.**

# *NEWS of the* BUILDING INDUSTRY

## INTEREST

AT THE BUILDING TEACHERS' CONFERENCE held at Willesden Technical College on March 10 the subject for discussion was "Training and Examinations for the Rank and File".

Opening the discussion the President of the Conference, T. E. Scott Esq., C.B.E., F.R.I.B.A., said that the time had come to reconsider the set-up of the City and Guilds examinations. He would like to see a lower level test introduced for everybody entering the building industry and foresaw that some day such tests might be essential qualifications for employment.

Such tests moreover would enable completely unsuitable boys to be diverted and could be carried out by the technical authorities.

The gravity of the problem was illustrated by the small number of operators who, at present, reach City and Guilds standard and sooner or later a system of tests to meet the needs of the majority of rank and file would have to be devised.

Harvey G. Frost Esq. followed the President with a speech outlining his findings in America where as a member of a productivity team sent out to study industrial training, he had recently spent six weeks.

From the eight states visited it was possible to draw the following conclusions. School discipline was virtually non-existent—pupils and teachers were casual. But this attitude was quite at variance with the zeal and efficiency found in factories and on the sites. This, said Mr. Frost was due to the dollar incentive and to the fact that there was a visible ladder of promotion from bottom to top. It seemed doubtful whether the educational development of the U.S. boy of sixteen was equal to British boys of fifteen. But the American system gave more chance of self expression and resulted in greater self confidence.

In the schools there was little classroom instruction, teaching being on the system of assigning pupils to various teachers. Exams were held at the end of each of the two half yearly semesters and these exams were on the basis of "true or false" quizzes. The system appeared to be effective.

There were no state exams like the City and Guilds partly as a result of the fact that the U.S. are against Federal Control of Education.

Of craftsmen in the U.S. 75 to 80 per cent come into the industry by the apprenticeship system. The majority of these at present are G.I. "veterans" who are entitled to Federal assistance which boosts their earnings to craftsman standard. The period of apprenticeship varies from three years for painters to five years for plumbers. But after a probationary period the apprentice's work may be reviewed and he may be credited for a shorter term.

Local Joint Apprenticeship Committees in the States are organized on a craft basis and hold monthly meetings. At these meetings there are field representatives of the National Bureau and representatives of the Technical schools.

The L.J.A.Cs keep a check on the length of time a boy is kept on one job and if necessary he is switched to another. This gets over the employer's complaint that it is not possible to see five years ahead.

No employer may take on more than a certain proportion of apprentices to craftsmen—this proportion is about 1:7. If craftsmen are stood off, apprentices are stood off in proportion. At present this does not result in unemployment.

The third speaker before the discussion became open was Mr. Mills, an operatives' representative who agreed with the President that boys should get certificates at the schools. But Mr. Mills was concerned at the number of avenues of entry to the industry in this country. He suggested that a solution to present problems was the setting up of a special overall committee with representatives drawn from all the bodies concerned to consider the problems on a national scale.

In the discussion which followed the original theme of the conference tended to be lost. The principal points made by various speakers are summarized below.

No. 1. A system of promotion from bottom to top of the industry is needed in this country. At present there is an undesirable bar which stops so called "rank and file" at foreman level.

No. 2. The present system prevents progress of four out of five who enter the industry and (by discouragement at the start) militates against character training. A lower level of exams is needed.

No. 3. The break for army training discourages youngsters.

No. 4. (A representative of the City and Guilds Institute.) School training is only secondary to training on the job. The present craft courses aim to train craftsmen not operators. Few lads of average intelligence are likely to fail City and Guilds.

(In reply to this speech figures were quoted from City and Guilds statistics which purported to show that out of 12,809 carpenters and joiners, who entered industry in 1945-46, 3,866 sat for City and Guilds in 1947-8 and 2,257 passed.)

No. 5. There is a tendency for boys to drop out at the age of fifteen for economic reasons. Some lower form of certificate was therefore desirable to help those who tend to slide.

No. 6. Quoting from the City and Guilds syllabus this speaker said that while the headings might sound too academic, the questions were in fact simple enough. The speaker was against lowering standards.

No. 7. Many employers do not seem to know the difference between the grades of City and Guilds exams. This speaker told of an operative who, wanting better pay, took the intermediate City and Guilds and passed. On being asked later whether he was taking the final the reply was that there was no necessity since he had told the employer that he had 1st class City and Guilds (unspecified). The employer had not checked up but had assumed that the Final was referred to.

*COMMENT.*

*It would seem that if standards of craftsmenship are to be maintained the introduction of lower grade certificates would tend to confuse the situation unless they were definitely and compulsorily linked to the City and Guilds examinations.*

*Whether something could be done to bring training syllabi more in line with modern construction practice is a matter for discussion and readers' viewpoints on this subject would be welcome.*

*

A TEAM, under the auspices of the Anglo-American Council on Productivity, will shortly visit America to study the relationship between Universities and Industry in that country. The Team will include a Vice-Chancellor and three Professors of universities in the U.K., a secretary of a University Appointments Board, two Principals of Technical Colleges, four representatives of industrial management, a representative of the Ministry of Education and a representative of the T.U.C. Education Department. The Leader will be Dr. Dunsheath, a Director of Henley's Telegraph Works Co., and also Chairman of Convocation of the University of London, and the Secretary will be Mr. Fleet, Assistant Secretary of the Association of Universities of the British Commonwealth.

Subjects for study will include the education of graduates and their employment in industry, the interchange of staff between Universities and Industry and the provision of research facilities.

*

THE HOUSING SUMMARY presented to Parliament on March 7th shows that 13,150 permanent houses were completed in Great Britain in January as compared with 15,950 during December.

Of these figures 1,333 houses were built by private builders in January as against 1,724 in December in Great Britain.

Of the total 13,150 houses England and Wales accounted for 11,783.

*

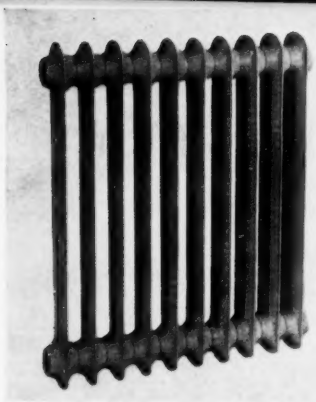
THE MINISTER OF SUPPLY, has made an Order fixing the maximum prices of aluminium scrap. This is to discourage hoarding and stabilize scrap prices, so that they are in reasonable relation to the price of virgin metal.

The Order—Aluminium Scrap Prices Order (S.I. 1951 No. 391)—has been made after consultation with the trade, and came into operation on Monday, March 12, 1951.

Over the past few months scrap prices have soared; in certain cases they have exceeded the price of virgin ingots. The effect has been to encourage speculation, and to create an unstable state of affairs which was threatening the structure of the secondary aluminium producing industry, at a time when the demand for secondary metal to meet the rearmament programme and other essential requirements were rapidly increasing. *(continued next page)*

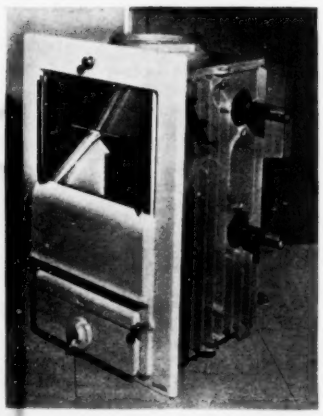
### *CORRECTION*

Reference was recently made in these columns to the fact that the Ministry of Works had arranged for the services of a regional technical officer of the B.R.S. to be available for builders' short term research problems. This was incorrect. The officer will be Mr. E. G. Dean, one of the Ministry of Works Technical Information Staff. The arrangement comes into operation on April 1.



**SERVICES, HEATING** B3/15

A feature of this radiator is the spacing of the sections for easy cleaning—an advantage too when redecorating. These radiators have now been on the market for about twelve months. Dimensions are 24 in. high × 3 in. deep to any required length. All models are tested to 100 lb. per sq. in. Finish is in grey priming paint. Retail price is 57s. 6d. for 10 sq. ft. of heating surface.



**SERVICES, HEATING** B3/14

Approved by the Ministry of Fuel and Power and newly on the market, this convector fire operates on the downdraught principle thus consuming a proportion of the smoke and reducing soot production. The fire gives direct and radiant heat—the latter from an incorporated reflector.

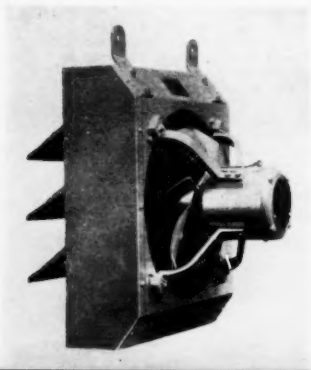
There is a boiler designed to provide enough water for a normal domestic load, *i.e.*, to supply 40 gallon cylinder. Recommended fuels are coke, 1"—2" anthracite, dry steam coal and household coal. The fire requires a brick opening 30 in. wide × 36 in. high × 14 in. deep.

**PLANT, HAND TOOLS** E3/13

This recently marketed spanner is made in four sizes to fit nuts from $\frac{7}{16}$" to 1$\frac{1}{4}$". The jaws are of hardened steel giving a three point grip on separate faces of the nut. This prevents any tendency to slip with consequent burring of the angles. The head is so designed that the grip increases as pressure is applied. A spring in the handle ensures easy ratcheting once finger tightness has been obtained.

Size 1 ($\frac{7}{16}$ in. to $\frac{3}{4}$ in.) costs 8s. 3d.

Size 2 ($\frac{7}{16}$ in. to $\frac{11}{16}$ in.) costs 10s.



**SERVICES, HEATING** B3/16

Visitors to this year's B.I.F. at Birmingham will see this new calorifier unit heater. The heater is suitable for industrial heating systems and improvements over previous types include reduced weight, balanced suspension, and ease of access to battery. Full particulars will be available at the exhibition. Previous models of similar type have outputs ranging 40,000 to 500,000 B.Th.Us per hour.

## MOSAICS

The names and addresses of manufacturers of any item illustrated in MOSAICS, together with more detailed information relating to their products—including price and availability—will be forwarded to readers on request.

Letters should quote the serial number and be addressed to :

The Associate Editor,
*The Architect and Building News*,
Dorset House,
Stamford Street, S.E.1.

*Please mark the envelope MOSAICS.*

## INTEREST *(continued from page 349)*

The fixed maximum prices will be as follows:—

| Trade description | Prices per ton delivered Ex works £ | Buyers' address £ |
|---|---|---|
| New pure aluminium scrap (excluding foil scrap) .. .. .. | 96 | 105 |
| Old rolled pure aluminium scrap (excluding foil scrap) .. .. | 86 | 95 |
| Clean aluminium alloy scrap .. .. .. | 81 | 90 |
| Aluminium turnings .. | 59 | 70 |

The Order provides a formula for fixing the maximum prices of any types of aluminium scrap not included in the list. All prices are subject to abatement for inferior quality or lack of cleanliness, and an additional 2s. 6d. per bag has been allowed for bagging.

The Order requires records to be maintained of all scrap transactions, describing the material sold and the price charged but contains an exemption for scrap situated outside the U.K. There is also an exemption for scrap intended for export; but aluminium scrap is subject to export control and licences are not normally granted.

*

THE JOINERY IN THE HOUSE OF COMMONS is illustrated comprehensively in a brochure recently produced by Messrs. Fredk. Sage & Company. As a representation of contemporary work of the woodworking craftsman this publication is, possibly unique.

*

THE L.M.B.A. has appointed a Festival of Britain Committee to ensure that builders from overseas coming to Great Britain for the Festival of Britain will be able to see what the building industry in the Home country is doing in the building of new houses, factories, schools—and New Towns.

The President, Mr. Dudley F. Cox, has sent a letter of invitation to the Presidents of building associations in the Dominions, asking them to let their members know if they are visiting Great Britain this summer the L.M.B.A. will assist in every way possible in enabling them to see British Building methods on the site. Not only will visits be arranged to building sites in London. Similar arrangements will be available through the various Regional Federations of the National Federation throughout England and Wales and in Scotland through the Scottish Federation.

Details of the arrangements have been notified to the Festival of Britain offices and to Chambers of Commerce and Rotary Clubs throughout London.

# GOOD, BAD OR INDIFFERENT ?

*No. 28—By A. FOREMAN*

## Noise in buildings No. 2.

LAST week I emphasized the importance of reducing the transmission of sound, especially in flats, but I was not able to go into detail so this week I propose to suggest how some improvement can be made to timber and concrete floors.

In the case of a traditional floor consisting of boards laid on timber joists with a plaster or plasterboard ceiling, sound passes through it in two ways—either across the air space between the joists or through the joists themselves. The Building Research Station has recently put forward proposals for reducing both types of transmission but it is stressed that both types of transmission must be tackled together as one without the other has little effect.

To reduce transmission across the air spaces, it is suggested that a layer of plasterboard should be fitted closely between the joists and supported on, but not fixed to, metal angles or wood fillets on the joists midway between the flooring and the ceiling, as we used to plug our floors years ago. The edges of the plasterboard where they meet the joists should be sealed with a material such as scrim and then a layer of sand spread over the plasterboard to a depth of one or two inches. Transmission through the joists themselves should be reduced by placing a quilt material, such as glass wool or slag wool, between the floor boards and the tops of the joists. It is important that the flooring is not nailed to the joists as the nails will transmit the sound and make the insulation provided ineffective. The flooring should be T. and G. boarding made up as panels by fixing battens on the underside to fit between the joists and the panels so formed laid on loose or alternatively the flooring is nailed to battens which are laid loosely over the joists. The weight of the sand and the fact that the boarding is not fixed to the joists to stiffen them should be taken into account when joist sizes are calculated.

When concrete is used for the floors, it is possible to separate a boarded floor from the structural concrete by using battens and a resilient quilt in a similar manner to that described above. When concrete floors are used it is, however, more common to have a screeded finish for flooring materials such as linoleum or asphalt and such a screed should be laid over a one-inch thick quilt laid on the structural floor and covered with waterproof paper so that the water in the screed does not dry into the quilt and spoil it and the setting of the screed. Great care is needed in the preparation of the screed as, since it is to be laid on a resilient base, it must be strong enough to withstand any loads that may be put on it in use without cracking. The screed will need to be at least 1½ in. thick and a light reinforcement will be necessary for domestic loads and a heavier one for other types of loading. The quality of the concrete will need to be good.

The efficiency of the sound insulation will be considerably improved if the ceiling finish is isolated from the floor itself. With a solid floor this may be achieved by fixing floor clips to the underside to support battens to which the ceiling is fixed or of course hangers may be cast into the structural floor as it is laid. The air-space should be at least one inch and the ceiling itself should be of a fairly heavy type. When precast concrete floors of the inverted channel type of section are constructed so that there is not a continuous soffit, the ceiling is automatically suspended with a large air-space, and with this type of construction battens or hangers are fixed by wires to the underside, but it is wise to place some resilient material between the concrete of the floor beams and the battens or hangers.

The methods of construction outlined above, and any which are similar, may sound a little complicated but some extra trouble during building and some extra expense is essential if reasonably comfortable conditions are to be provided for occupants. There are many small points which must be watched very carefully when building for sound reduction otherwise success is very uncertain. These mainly relate to the avoidance of indirect paths for the transmission of sound. For example, the floating floors discussed above will not prevent sound being picked up by the walls in an upper room, passing downwards and being radiated in the lower room; to avoid this inserts must be placed in the walls in the same way as damp-proof courses are used for stopping moisture; these inserts can be one or two layers of thick bitumen felt, asbestos felt, cloth or millboard. These barriers are needed in walls and chimney stacks at the level of the resilient quilts in the floors. They are also necessary between the edges of the floor screeds and the wall and between boarded floors and skirtings. Great care has to be taken with the construction of partitions as these should not rest on floating floors but must be built off the structural floors and be properly isolated from them and from the floors that adjoin.

I hope these notes have not made this subject even more complicated but it is one of very great importance and should receive a great deal more attention than it has had in the past. Flat dwelling has become a necessity if we are to live near our work in the larger cities but there is no justification for conditions for the flat tenant to be worse than if he lived in a detached house in the suburbs. The results of research and recommendations arising from it have been published by B.R.S. in Digests Nos. 15 and 19 (H.M.S.O. price 2d. each) which will be found very helpful.

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# THE PRINCIPLES OF STRUCTURAL WELDING

**No. 3 — By Rolt Hammond, A.C.G.I., A.M.I.C.E.**

## ELECTRODES

The electrode plays a vital part in welding. If the wrong type be chosen for arc welding, the deposited metal from the electrode may have a different coefficient of thermal expansion from that of the parent metal, in which case the metal deposited from the electrode will cool down at a rate different from that of the parent metal. This may cause weld cracking. Parent metal and electrode metal must therefore have closely similar thermal coefficients.

At the extremely high temperature of the arc, the electrode metal may oxidize much more rapidly than the parent metal. There will thus be a danger that impure weld metal will be formed. Wastage of electrode will lead to increased cost of production. The actual composition of the electrode coating is governed to a large extent by the speed at which the electrode metal melts, and this must be greater than that of the coating consumption, in order that the necessary protective gas shield may be maintained as melting of the electrode continues.

## APPLICATION

Electric arc welding is applicable to both carbon and alloy steels, to stainless and austenitic manganese steel, to aluminium and its many alloys, to copper, bronze, brass, nickel, cast iron, and many other metals. It can be used for flat, vertical or overhead runs, and some electrodes are now available for very rapid welding of flat joints, but these are unsuitable for overhead or vertical runs. Specifications governing the use of arc welding electrodes in Great Britain are British Standard Specifications Nos. 639, 640 and 782. A satisfactory welding electrode for normal industrial applications should have a deposit efficiency of between 80 and 90 per cent. Electrodes need care. They should be stored in a dry place. If they become damp, they must be dried by heating gently for two or three hours in an enclosed chamber. Stacks of electrodes in their boxes should be limited to a height of 5 feet, and all stub ends should be collected and used again for tack welding in order to save valuable alloy.

## PREPARATION

In any type of welding, proper preparation is essential. This involves removal of grease, oil, scale, oxide and rust from all surfaces in contact. The work must be set up in the most convenient position for welding. The usual procedure is to assemble the component parts in a tack welding assembly jig, where tack welds are laid down. The tacked assembly is then set up in a manipulator. This consists of a turntable mounted on trunnions in which the component being welded can be rotated in the vertical and horizontal plane so that every joint is laid down in the downhand position. All overhead or vertical joints are thus avoided.

## DESIGN

A welded structure should be designed as a welded entity and should not be adapted to welding from some other form of construction. By appropriate design the full benefits of welded construction together with the economy of materials is obtained.

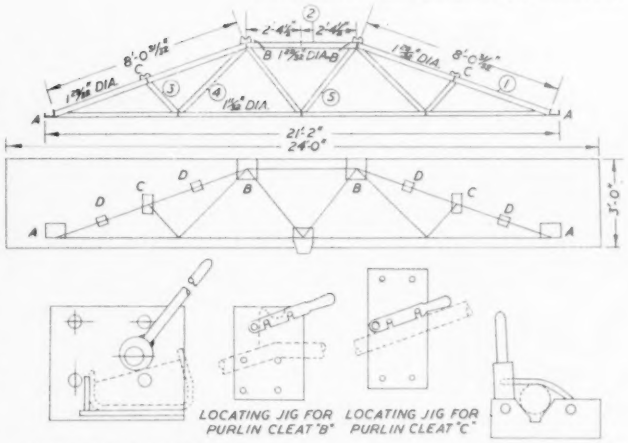
Welding, properly applied, confers upon the building and civil engineering contractor considerable benefits, enabling great economies of material to be achieved when compared with alternative forms of construction. A sound example of what can be done by expert design is provided in Fig. 4. This shows a welded tubular steel roof truss for Arcon houses. In this design use is made of a preassembled light steel framework; the end trusses of rolled sections being incorporated in the gable assemblies. The tubular truss here illustrated and described is one of the two similar intermediate trusses. The design is more or less conventional, the picking-up points for purlins, ceiling ties and shoes being made from plate welded on. The tubes vary in size from an external diameter of 1 $\frac{29}{32}$ in. using material of 11 gauge, to an external diameter of—1 $\frac{1}{16}$ in. with material of 14 gauge thickness. During the design and test stage of production the making of a few trusses presented no difficulty. But the major contract requiring more than a thousand trusses a week, called for great care in developing a layout to give a smooth and economical production.

## PROBLEMS

The problems to be solved were numerous. And since they are found in most welding production, a review of them may be of value to contractors who could in the author's opinion profitably embark on welded construction with every prospect of making a handsome profit—assuming proper organization and thorough inspection and testing of the finished product. Testing to destruction could profitably be undertaken on trusses taken at random from time to time from the production line.

The problems to be solved in this particular case were (1) the method of cutting the tubes to the necessary angles; (2) shaping of abutting tubes; (3) tolerances permissible on fittings and on the completed truss. Normal methods of tube-cutting were too slow for the large scale production involved. Experiments were therefore carried out with a friction or abrasive saw and although a certain amount of fraze was produced, this was not found to be harmful in production. The junctions for the truss are between tubes of 1 $\frac{1}{16}$ in. diameter on to 1 $\frac{29}{32}$ in. diameter and 1 $\frac{1}{16}$ in. diameter. Normal shaping to enable the smaller pipe to saddle the larger would have called for a battery of machines to perform this one operation. It was found instead that by flattening the end of the strut members by 50 per cent., the oval effect provided gave satisfactory welding conditions. The resultant weld proved to be as strong as a saddled weld in compression or in tension.

Tolerances on the fittings and on the completed truss are obviously linked together, and the main production aim was that all trusses coming off the line had to be interchangeable, irrespective of the source of manufacture. It was finally decided that all the tolerance that could be allowed was the clearance of the bolts in the bolt holes. Thus, the assembly jig was designed using pins five thousandths of an inch undersize compared to the holes in the fittings. The bolts to be used at site were used on the checking jig; this entailed a registering of eight holes in purlins, four holes in shoes, and six holes in ceiling lugs at one end and the same time, which permitted an out-of-position movement of up to $\frac{1}{16}$ in. per bolt. This in turn demanded a tightening up on the fittings.







WELDED TUBULAR STEEL ROOF TRUSS FOR ARCON HOUSES
Fig. 4.

The assembly of the structure with its subsequent welding caused a certain amount of contraction and distortion. The assembly jig, to be described later, was at first left loose to a certain extent until a setting had been found from which the trusses when welded up would fit into the checking jig. A feature of the work was the variation necessary in cutting angles to allow for contraction and distortion; this is shown in the table below.

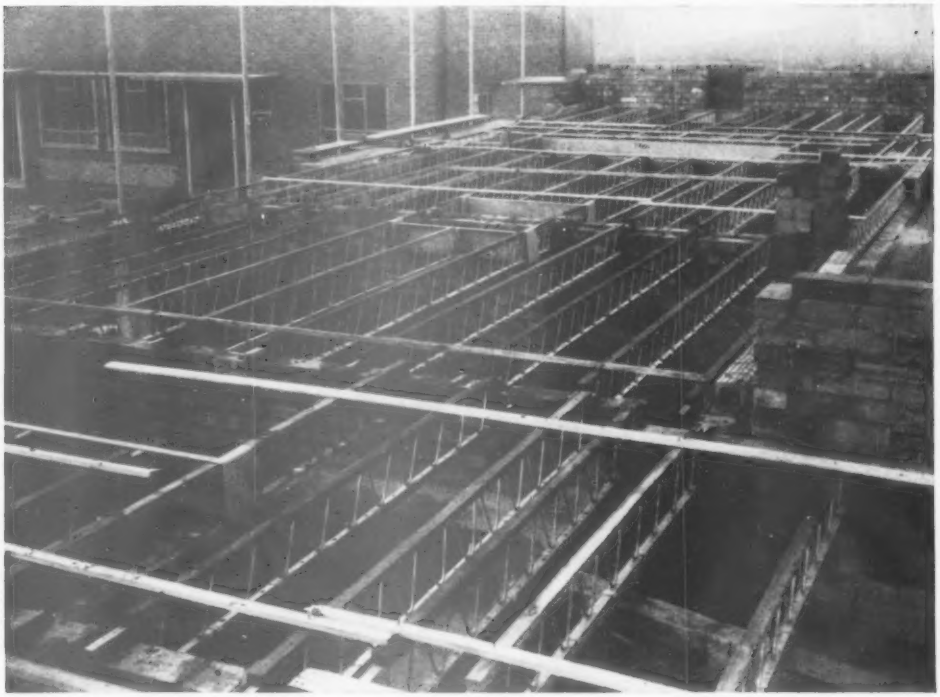
As an example of the variation in length necessary, the theoretical length of member No. 3 was 20 feet 2 inches, and the actual cut length was 20 feet 2 $\frac{1}{16}$ inches.

The angles of cut vary through a wide range of degrees. It was therefore decided to angle the cutting machine and to keep the line of the tube constant rather than to keep the machine constant and alter the angle of entry of the tube. The cutting machine was mounted on a turntable. The template bar was marked at the required points for the various lengths needed and angled stoppers were fitted. Thus a constant product was obtained from the cutting line. Flattening of the bracing members was a simple process, using hammer and anvil.

Fittings were delivered from a number of different supplies, but owing to the fairly close tolerances for unmachined work it was necessary to check the fittings as received. Simple jigs were designed for this purpose and at first considerable difficulty was experienced in ensuring that the suppliers would work to the limits specified. Although improvement followed, it was found that the jigs could not be dispensed with. The upper sketch in Fig. 4 shows an outline of the assembly jig for the truss, mounted on a table 24 feet long and 3 feet wide; this jig is simple in design, easy to operate, sturdy and accurate. The small sketches show the various clamps and locating jigs employed, all of simple and sturdy design. Each truss was assembled and the joints were then tack welded with the various pieces in position, the layout adopted being two men assembling and two others tack welding on two assembly tables. This layout gave a higher output than when only one assembly jig was used. Owing to the large number of trusses involved an anti-spatter compound was used for protecting all points at which tack welding took place, and this was found to be very useful and practical.

After each truss had been tack welded, it was passed on to the welders. In a case like this it is wise policy to train welders to do a certain type of weld fairly quickly, and generally speaking use was made on this production line of men specially trained for the job. Each truss was welded completely on one side, generally that opposite to the tack welding; it was then turned over and the welding was completed on the other side. A single run technique was employed throughout, and from samples cut up no weld possessed a throat thickness of less than $\frac{1}{16}$ in. which was found to be quite satisfactory. After welding, each truss was passed to the cleaners, where all slag and weld spatter were removed. At this stage, inspection of the finished work took place, and any defects were corrected.

| Member number as in circles on sketch of roof truss | Theoretical angle of intersection | Actual size of intersection |
|---|---|---|
| 1 | 8 degs. 28 mins. | 8 degs. 30 mins. |
| 2 | 8 degs. 28 mins. | 8 degs. 30 mins. |
| 3 | 45 degs. 34 mins. | 45 degs. |
| | 28 degs. 38 mins. | 28 degs. 4 mins. |
| 4 | 48 degs. 32 mins. | 48 degs. 14 mins. |
| | 65 degs. 28 mins. | 65 degs. 10 mins. |
| 5 | 43 degs. 32 mins. | 44 degs. |



*Presweld construction in War Memorial village at Derby* *Honorary Architect: Thos. W. East, F.R.I.B.A.*

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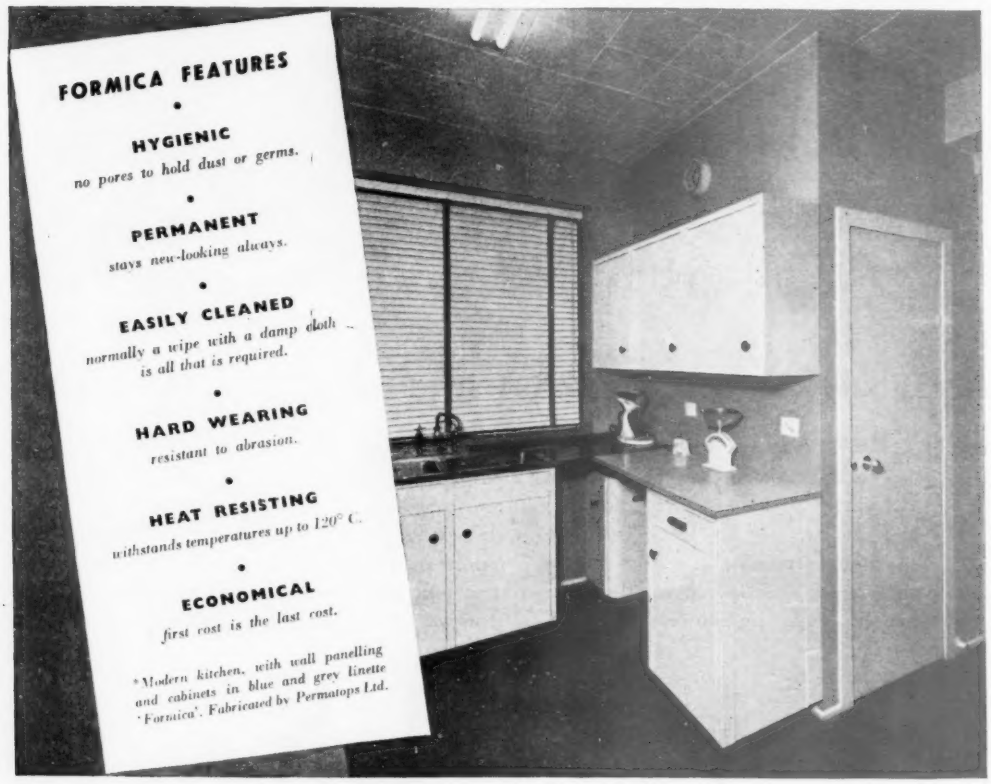
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# THE BUDGET, 1951

## F.B.I. Representations submitted to the Chancellor of the Exchequer

***In recent years the Federation of British Industries has consistently brought to the notice of the Chancellor of the Exchequer the grave and urgent problems which arise as a result of the lack of capital needed by industry to replace or modernise fixed assets, to maintain stocks and to maintain production, let alone increase it. The root cause of this shortage of capital is the severe rates of taxation imposed during the last decade aggravated by the method of computing profits for tax purposes, particularly in a period of rising prices.***

***The impact of rearmament presumably removes all possibility of the total yield of taxation in the United Kingdom being reduced in the near future. As a consequence the Federation has examined the present taxation position as affecting industry and is of the opinion that, to meet the financial needs of the Defence Programme, additional taxation is not inevitable. If, however, it should be decided that additional taxation must be imposed, then at least no additional burden can be placed upon industry if serious prejudice to the ability of industry to maintain production in the country is not to ensue.***

*Below we publish extracts from representations submitted by the Federation of British Industries to the Chancellor of the Exchequer.*

It is the conviction of industry that in the national interest the broad objects of the Government's budgetary policy should be as follows:—

1. To preserve industrial capital in the face of inflationary pressure.
2. To remove discriminatory taxation on corporate bodies and to spread direct tax more widely over the general body of tax payers.
3. To counter inflationary pressure by drawing off surplus purchasing power where it lies.
4. To avoid any increase in the total burden of taxation and to find the major part of the finance for rearmament by reductions in other forms of Government expenditure.
5. To readjust the incidence of taxation so that it does not constitute a deterrent to greater effort, in particular by industry; this involves a fair reward for capital as an incentive to saving, as well as for labour.

The Federation has examined the possible detailed steps to implement the broad policy it recommends. As a result it advocates to His Majesty's Government the following considerations.

1. *The whole budget should be balanced. All forms of Government expenditure need careful reconsideration.*

Government expenditure as a whole is excessive in particular expenditure on capital account, and should be drastically overhauled.

The present method of financing Local Authority capital expenditure by "below the line" expenditure of the Central Government is unsound in current circumstances. This procedure which was designed in conditions of unemployment to facilitate Local Authority capital expenditure is inappropriate to an inflationary situation, and tends to encourage extravagance in capital expenditure by Local Authorities. If Local Authority capital expenditure were to be financed out of revenue or direct borrowings from the market there would be a greater encouragement to economy.

2. *It is not inevitable that the defence programme will of itself necessitate increases in taxation. Indeed the proposal that there should be no increase is both practical and desirable.*

The cost of the Defence Programme, excluding stock piling and providing the programme is fully achieved, is estimated at a total expenditure of £m.4,700 over the next three years; the expenditure in the financial year 1951/52 being in the neighbourhood of £m.1,300. So far as can be ascertained from the Prime Minister's Statement these figures represent the gross cost to the United Kingdom from which will fall to be made some deduction, as yet undetermined, in respect of assistance which the United States will offer.

The level of defence expenditure budgeted for in the current year is £m.780, or £m.2,340 in three years. The estimates now made forecast an increase over that level of £m.2,360 over three years; the additional finance to be found in 1951/52 being approximately £m.500.

If the additional expenditure called for is to be met out of extra revenue and out of economies in other expenditure, it is first necessary to estimate what increase in revenue is likely to come from the increase in the gross national product with no increase in the present rates of taxation.

The gross national product of 1949 (£m.11,076) was 8% higher than 1948. A similar increase is expected for 1950 over 1949. But for rearmament 1951 would also show an increase. Rearmament, however, has caused shortages to emerge in some raw materials and the sufficiency of coal output is in doubt. There will be a diversion of labour to munitions and a consequential diversion in the flow of production of some industries which have shown the greatest increases in productivity. Even if a satisfactory system of raw material allocation is devised there will be a drop in the total production which must be allowed for in any estimate in the yield of revenue. There is a danger that the gain of 8% in 1950 over 1949 will be lost in 1951 bringing the situation back to the 1949 level on which some of the revenue for the budget for 1950/51 was based.

If the long term plan is to succeed at all it must be assumed that the difficulties of 1951 are transitional and that thereafter the rise of production will be resumed but at a lower rate than 1950.

There is an ample field for economies in central and local Government expenditure other than defence. On revenue account there is a substantial, if indeterminate, amount to be saved by economies in the administration of the present services; there are services which can be deferred to more prosperous times. It is believed that there is scope in this direction for reduction of more than £m.300 a year for three years.

Thus quite apart from the additional revenue to be anticipated, at a minimum £m.600 a year, or a total of £m.1,800 over three years, and possibly considerably more, of the funds required for rearmament could be found through economies.

### NEED IS £2,360 MILLIONS OVER THREE YEARS. A MINIMUM OF £2,000 MILLIONS AVAILABLE WITHOUT EXTRA TAXATION.

There could be made available towards the cost of the Defence Programme over the three year period and without resort to additional taxation at a minimum, a sum of £m.2,000. The increase in defence expenditure has been put at £m.2,360 for the next three years. These are rough figures but they indicate that additional taxation may not be inevitable. So far as the immediate outlook for the forthcoming year is concerned the requirement is for additional finance to the order of £m.500. As has been indicated above it is far from impracticable to find that amount without any increase in the existing level of taxation.

The total burden of taxation in this country is already much too high for a healthy economy because taxes are eating into capital resources. The need is to reduce taxation, not to increase it.

3. *The present incidence of taxation requires immediate review and adjustment.*

With the present proportion of national income absorbed by taxation the existing incidence is unsatisfactory and damaging to industry and to the nation's economy. The new burden of rearmament together with the suspension of Marshall Aid indicates that the present over-high taxation will not be materially reduced for some years. It is therefore essential that, if further damage to industry's production ability is to be minimized, incidence should be adjusted immediately without awaiting final rectification in the light of the findings of the Royal Commission. The following specific changes designed so as to be suitable for immediate operation (but not necessarily appropriate as permanent and therefore differ from recommendations made to the Committee on Taxation of Business Profits) are urged as interim action.*

As regards stocks, businesses should be permitted to set aside out of profits of accounting periods closed in 1950/51 a reserve equal to the difference between the value of their closing stocks valued at cost or year end prices and the same stock valued at prices current on the first day of the accounting period. This could be interim relief pending examination of the possibility of providing for reserves for the back log of previous rises in prices since June 1945.

As regards fixed assets, businesses should be permitted to set aside out of profits of accounting periods closed in 1950/51 a reserve equal to the difference between wear and tear on an Income Tax basis and depreciation on the basis of replacement costs ruling on the date of closing the account. This would be interim relief pending a revision of the system of allowances due under the Income Tax Act, 1945 on the basis of replacement costs and the extension of those allowances to business assets which are now excluded.

(*b*) *The Profits Tax should be withdrawn.*

An additional fiscal burden imposed on companies, it is a severe handicap to the ability of industry to provide finance from its own savings; it is inequitable in that the incidence falls entirely on ordinary shareholders; and it tends to cause a distortion of company finance by giving a fiscal advantage to finance by loans in lieu of finance by new capital. In so far as the loss of revenue arising, estimated at £m.155 net, cannot be countered by economies in Government expenditure,

*It is to be noted that many proposals which would result in an alteration of the incidence of taxation on industry were laid before the Committee on Taxation of Business Profits. That Committee has not yet reported but if it should do so in advance of the next Budget it is of importance that an opportunity should be taken in the Budget to give effect to any rectification which it may recommend.

**THE BUDGET, 1951—*continued.***

some increase in other forms of taxation would be necessary.

(c) *A shift of the burden of taxation should be sought from production to consumption, in other words from direct to indirect; any additional indirect taxation necessary being preferably imposed on those forms of consumption which it is most desirable to restrict.*

In this connection it is stressed that the field to be reviewed goes far beyond the subject of enquiry by the Royal Commission on Income Tax and a further and more general enquiry is necessary.

*Taxes on Profits from Overseas Enterprises.*

The profits of foreign branches of British concerns and foreign concerns managed and controlled in the United Kingdom are subject to British taxation, irrespective of whether or not the profits are remitted to this country. The tax burden on these companies is therefore generally very much greater than that on foreign firms with which they are in competition. This makes it difficult for the firms subject to British taxation to compete effectively. In particular, it severely handicaps their ability to provide out of profits reserves for expansion or to finance higher stock values. It is urged that British tax should only be imposed to the extent that the profits are remitted to this country.

*Double Taxation: Unilateral Relief.*

Last year, Sir Stafford Cripps granted relief from double taxation by giving what is known as unilateral relief. This allows any tax paid abroad to be credited against British tax on the same profits up to limits of 50 per cent. of the British tax for taxes in foreign countries and 75 per cent. for taxes within the Empire. It is urged that these limits should be removed.

*Double Taxation: Taxes Upon Which Relief is Available.*

Unilateral relief is given for any taxes paid abroad in the nature of income or profits tax. In some foreign territories, there are annual taxes calculated by reference to capital. In essence income taxes, these are not available at present for relief. It is urged that relief against them should be accorded.

*Commercial Vehicles.*

In general it has previously been the principle that purchase tax should not be imposed on equipment for business and industry, particularly capital equipment. The decision to impose purchase tax on commercial vehicles is wrong and should be reversed.

*Stationery.*

The majority of the yield of purchase tax on stationery comes from commercial stationery, which is essential to every manufacturing process and to all commerce. It would be difficult to distinguish between stationery personal to the individual and commercial stationery. It is therefore suggested that purchase tax on stationery should be abolished.

# CORRESPONDENCE

Sir,

*Soot on Building Stone*

The usual explanation given as the cause of sooty deposit on stone and other building materials has always been that it is due to the gradual deposition of dirt, and particularly of carbonaceous particles, from the atmosphere.

This, however, is not always the main cause. In many cases the damage is due to biological causes rather than to soot deposit.

Since the expense of maintaining public buildings and monuments in moderately clean condition is considerable the above view has not, so far, received the attention it deserves.

Damage is not confined to surfaces and blackening is eventually followed by a peeling or flaking of the stone. Old pillars exposed to weathering are always darker on one side than on the other. The side to darken first is the damper side *i.e.* that less exposed to the sun; at a later stage this side becomes quite black, then begins to flake, and finally becomes the lighter side as a new stone surface is exposed. Thus a close examination is sometimes necessary to determine whether the lighter side is more, or less, deteriorated than the darker side.

Similarly, old tombstones are commonly whiter at the upper than at the lower portions. The erasure of the incised lettering, however, reveals that the whiter part is the *more* eroded.

Observation shows that the most blackened areas of stone or brickwork are these parts which for some reason or other are the dampest. Association of blackening with dampness is of course consistent with both theories: soot and dirt particles will adhere better to a damp surface, and living organisms will not grow without moisture.

The biological process suggested is the growth of micro-organisms—mainly algae, fungi, and bacteria—which die off and are broken down to give a dark coloured humus deposit in the same way that humus is formed in the upper layers of fertile soil.

Undoubtedly much of the darkening of stone in populous or industrial areas is due to soot deposit. But one very often finds instances *e.g.* on coastal buildings, and in country churchyards, of blackening which cannot be attributed to soot.

In some cases it is possible to trace a sort of plant succession on different parts of a stone structure. First a greenish deposit due to growth of unicellular algae; later a dark area with humus-like deposit; and finally, if flaking does not occur too soon, the humus layer becomes dense enough to support growth of lichens or mosses.

It seems likely that such a succession often represents the actual course of events. The green algae, since they possess chlorophyll, require no organic nutrient—only moisture and traces of certain mineral salts; these, together with carbon dioxide from the atmosphere, they can build up into organic matter. During dry periods these algae die off, leaving an organic deposit on the stone, so that with a return of damp conditions one has a growth not only of fresh algae, but also of bacteria and fungi which can grow on the dead algal material. Eventually such a pabulum of humus accumulates that mosses, lichens, liverworts, ferns and even herbs may develop if weathering is not too severe.

To test fully the importance of the above processes it would be necessary to inaugurate a planned long term research. It is, however, easy to satisfy oneself that algal growth is often the first stage of blackening and decay. The part played by fungi, and (under damper conditions) by bacteria, is less easy to establish. Extensive growth of recognizable dark-coloured moulds *e.g. Stemphylium, Cladosporium*, as found on mouldy papered or plastered walls seldom occurs on stone. (Although some years ago it was reported that buildings in Calcutta showed an outbreak of spots due to a mould.) But fragments of fungus mycelium are not difficult to detect; in porous stone they occur not only at the surface but in the interior also. It may be that the periods of active growth are too short for typical mould growth to accumulate at the surface.

Bacterial growth would have to be looked for microscopically during the wet periods. A quantitative examination might well show that bacteria were a more important factor than fungi, despite their higher moisture requirements.

Green algae form a necessary link in the succession only if no organic matter is present. As regards London buildings, a little observation of the starling and pigeon dormitories that are established every evening at dusk soon convinces one that organic nutrient is not likely to be lacking.

The suggestion that biological humus is as important as soot in the blackening of buildings is put forward as a challenge rather than as a proved fact. It is nevertheless extremely instructive to look at blackened structures with this theory in mind, and further research would be well worth while. Where "biological blackening" can be established as the main source of trouble, new methods suggest themselves for prolonging the life of building materials. Possibly London's Festival year spring clean might be made more permanent.

L. D. Galloway,

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# ACID TEST

CLAIMS MADE for an alkali and acid resistant chlorinated rubber paint manufactured by Allweather Paints Ltd., were recently tested in a brewery.

Three coats of the paint were applied to a plaster wall in the Brewery's bottling store's refrigeration room, allowing overnight hardening between each application.

After allowing three days for the finishing coat to harden, a strong caustic solution was applied. Next day the caustic was found to have dried out and crystallized on the surface. The paint, it is said was still in perfect condition when subsequently washed down with water.

The temperature of the refrigeration room was forced up to 150 deg. F by steam heat, and then allowed to fall to 30 deg. F.

The Paint is now being used by this Brewery for the protection of refrigeration rooms.

# CONTRACT • NEWS •

*Notes below give basic data of contracts open under locality and authority which are in bold type. References indicate: (a) type of work, (b) address for application. Where no town is stated in the address it is the same as the locality given in the heading, (c) deposit, (d) last date for application, (e) last date and time for submission of tenders. Full details of contracts marked * are given in the advertisement section.*

## OPEN

### *BUILDING*

**AIREBOROUGH U.C.** (a) Reconstruction and enlargement of public convenience at rear of White Cross Hotel, Guiseley. (b) Engineer and Surveyor, Micklefield House, Rawdon, near Leeds. (c) 1 Gn. (e) Mar. 30.

* * *

**ARUNDEL B.C.** (a) 18 houses on Pearson Road No. 2 scheme. (b) T. Greenfield, "Newstead," Midhurst. (c) 1 Gn.

* * *

**BEDFORDSHIRE C.C.** (a) 2 cottages. Adaptation of farmhouse. Two sets of farm buildings and adaptations to buildings at Park Farm, Mogerhanger. (b) For first and second scheme to County Architect, and for third to County Land Agent, Shire Hall, Bedford. (d) Mar. 28.

* * *

**BIRMINGHAM C.C.** (a) 73 houses and bungalows on Woodcock Hill Farm, Bartley Green. (b) City Engineer, Civic Centre. (c) 2 Gns. (d) Mar. 28.

* * *

**BRIDLINGTON B.C.** (a) 24 flats in two blocks on West Hill Estate. (b) Borough Engineer, Town Hall. (c) 5 Gns. (e) Apr. 20.

* * *

**BRIGHTON B.C.** (a) Extension of 26,000 sq. ft. to factory on Hollingbury Estate Light Industrial Area. (b) D. J. Howe, 26-30 King's Road. (c) 5 Gns. (e) Apr. 11.

* * *

**BURNLEY B.C.** (a) 52 dwellings on Brunshaw Estate. (b) Borough Engineer, 22-24 Nicholas Street. (c) 1 Gn. (e) Apr. 9.

* * *

**BURNLEY B.C.** (a) Alterations and improvements and repairs at St. Andrew's C. of E. School. (b) Messrs. Leach, Rhodes & Walker, 15 Manchester New Road, Middleton. (c) 1 Gn. (e) Apr. 10.

* * *

**BURY B.C.** (a) Fairfield Primary School at Rochdale Old Road. (b) Borough Engineer, Town Hall. (c) 2 Gns. (e) Mar. 30.

* * *

**CHELMSFORD B.C.** (a) 12 houses in two blocks at Chignall Estate. (b) Borough Engineer, Municipal Offices, Duke Street. (c) 2 Gns. (e) Apr. 16.

* * *

**CHESHUNT U.C.** (a) 22 two-storey flats at Carleton Road, and 8 two-storey flats at Swanfield Road, Waltham Cross. (b) Messrs. Culpin & Son, 3 Southampton Place, W.C.1. (c) 2 Gns. (e) Apr. 16.

* * *

**DONCASTER B.C.** (a) 28 houses in blocks of 4 on Cantley Estate. (b) Estates Surveyor, 15 South Parade. (c) 3 Gns. (e) Apr. 2.

* * *

**DOVER B.C.** (a) 16 flats in 4 blocks at Wycherley Crescent, Buckland Estate. (b) Borough Engineer, Brook House. (c) 2 Gns. (e) Apr. 7.

* * *

**DURHAM COUNTY POLICE AUTHORITY.** (a) 5 pairs of police houses on Merryoaks Estate. (b) County Architect, Court Lane. (e) Apr. 2.

* * *

**ESSEX C.C.** (a) Adaptations to "Lionmede," Springfield Road, Chelmsford. (b) County Architect, County Hall, Chelmsford. (d) Mar. 24. Approx. cost £2,112.

* * *

**FORDEN R.C.** (a) 19 houses at Bausley (Crew Green). (b) Walter B. Bond, Colmore Chambers, 3 Newhall Street, Birmingham, 3. (c) 2 Gns. (d) Mar. 30.

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**GLAMORGAN C.C.** (a) Conversion of "Graig-y-Parcau," Bridgend, to form an aged persons' hostel. (b) County Architect, Glamorgan County Hall, Cardiff. (c) 2 Gns. (e) Apr. 4.

* * *

**IRTHLINGBOROUGH U.C.** (a) Erection of (1) 10 houses, (2) 12 houses, and (3) 14 houses and 2 houses, on Addington Road site. (b) Council Offices. (c) 2 Gns. (e) Mar. 30.

* * *

**LIVERPOOL C.C.** (a) Erection of 6 houses at Worcester Drive and Worcester Avenue, Clubmiir, 9 houses at Fernwood Road, Sefton Park, 9 at Birchtree Road, Sefton Park, 4 at Buckland Street, Toxteth, 5 at Upper Park Street, Toxteth, 1 at Morton Street, Toxteth, 8 at Fountains Road, Kirkdale and 17 at Freeland Street, Kirkdale. (b) City Architect, Blackburn Chambers, Dale Street, Kingsway. (c) 2 Gns. (e) Apr. 5.

* * *

**LONDON—HENDON B.C.** (a) Single-storey branch library at Hale Lane, Edgware. (b) Borough Engineer, Town Hall, N.W.4. (c) 2 Gns. (e) Apr. 9.

* * *

**LEEDS CORPORATION.** (a) Alterations to Holbeck Branch Library to form Maternity and Child Welfare Centre. (b) City Architect, Priestley House, Quarry Hill. (c) 2 Gns. (e) Apr. 6.

* * *

**MANCHESTER C.C.** (a) Partial demolition and complete rebuilding of a two-storey cattle lair at the City Abattoir, Water Street. (b) City Architect, Town Hall. (c) 1 Gn. (e) Apr. 2.

* * *

**MANCHESTER C.C.** (a) Alterations, etc., to classrooms to form kitchen and dining-room at College of Domestic Economy, Chorlton-on-Medlock. (b) City Architect, Town Hall. (c) 1 Gn. (e) Apr. 3.

* * *

**MANCHESTER C.C.** (a) Erection and completion of a pavilion for elderly men at Birchfields Park, Rusholme. (b) City Architect, Town Hall. (c) 1 Gn. (e) Mar. 31.

* * *

**MANCHESTER REGIONAL HOSPITAL BOARD.** (a) New casualty and consultation departments at Leigh Infirmary. (b) Board's Architect, Third Floor, Sunlight House, Quay Street. (c) 2 Gns. (d) Mar. 29. (e) Apr. 25.

* * *

**MOSSLEY B.C.** (a) 20 houses on Micklehurst site. (b) Messrs. Howard & Benson, 88 Mosley Street, Manchester, 2. (c) 2 Gns. (e) Apr. 2.

* * *

**NEWCASTLE-UPON-TYNE C.C.** (a) 2 police houses at Colwell Place, and 4 police houses at Sutton Street. (b) City Architect, 18 Cloth Market. (e) Apr. 6.

* * *

**N. IRELAND—DOWNPATRICK R.C.** (a) 12 houses at Ballygeegan, 12 at Teivenadarragh, 12 at Lisowen, 12 at Clonvaraghan and 2 at Scaddy. (b) Messrs. Ogilby & M'Cutcheon, Lombard Street, Belfast. (c) 5 Gns. each contract. (e) Apr. 3.

* * *

**NORFOLK E.C.** (a) Alterations to headmaster's house and boarding house at King Edward VII Grammar School, King's Lynn. (b) Chief Education Officer, County Education Offices, Stracey Road, Norwich. (c) £2. (d) Mar. 28.

* * *

**OTLEY U.C.** (a) Demolition and clearance of site at New Market, and erection of public conveniences. (b) Council's Surveyor, Council Offices, North Parade. (c) 2 Gns. (e) Apr. 6.

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**ROMFORD B.C.** (a) Two public conveniences at Rush Green Road, Romford, and at Station Road, Gidea Park. (b) Town Clerk, Town Hall. (c) 2 Gns. (e) Mar. 31.

* * *

**ROTHERHAM R.C.** (a) 40 houses at Thrybergh, on Vale Road site. (b) Messrs. Taylor Knight & Co., "Brooksmoor House," Grove Road, Moorgate. (c) 2 Gns. (e) Apr. 5.

* * *

**ROYSTON U.C.** (a) Public conveniences. (b) Council's Surveyor, Town Hall. (c) 2 Gns. (e) Apr. 6.

* * *

**SALE B.C.** (a) Repairs to the Drill Hall, Chapel Road. (b) Messrs. Brazier & Hartington, 21 Market Street, Altrincham. (c) 1 Gn. (e) Apr. 13.

* * *

**SALE B.C.** (a) 70 dwellings on Baguley Lane site. (b) Borough Surveyor, Town Hall. (c) 4 Gns. (e) Apr. 11.

* * *

**SALOP C.C.** (a) Child Welfare centre at Newport. (b) County Architect, Column House, London Road, Shrewsbury. (c) 2 Gns. (e) Apr. 16.

* * *

**SCOTLAND—DOUNE B.C.** (a) 10 houses at Castlehill. (b) Town Clerk, Dunblane. (d) Mar. 31, all or separate trades.

* * *

**SEVENOAKS R.C.** (a) 16 houses in four blocks at Church House Lane site, Edenbridge. (b) Engineer and Surveyor, Sevenoaks. (c) 2 Gns. (e) Apr. 5.

* * *

**SOUTHWICK U.C.** (a) Pair of houses at Southwick Street. (b) Engineer and Surveyor, Town Hall. (c) 2 Gns. (e) Apr. 5.

* * *

**STOCKPORT B.C.** (a) 30 flats on Brinnington Estate. (b) Borough Surveyor, Town Hall. (c) 3 Gns. (d) Mar. 27. (e) Apr. 20.

* * *

**SUNDERLAND B.C.** (a) Cafeteria at Seaburn. (b) Borough Architect, Grange House, Stockport. (c) 2 Gns. (e) Apr. 2.

* * *

**SURBITON B.C.** (a) 144 two-storey flats at Chessington Court Estate. (b) Town Clerk, Council Offices. (d) Mar. 31.

* * *

**THAME U.C.** (a) 2 bungalows at north corner and 2 houses at centre of Kingsley Road site. (b) Messrs. Henry Cooper & Son, 51a Cornmarket Street, Oxford. (c) 2 Gns. (e) Mar. 30.

* * *

**WATFORD R.C.** (a) 6 houses at Downer Drive, Sarratt. (b) Council's Clerk, Council Offices, Wynyard House, Langley Road. (c) 1 Gn. (d) Mar. 28.

* * *

**WEST RIDING C.C.** (a) Alterations and adaptations to provide recreation room, control room, office and stores etc., at the Fire Station, Summerbridge. (b) County Architect, Bishopgarth, Westfield Road, Wakefield. (e) Apr. 2.

* * *

**WEST SUSSEX C.C.** (a) Alterations to Little Paddocks, Ifield, near Crawley, to provide home for aged persons. (b) County Architect, County Hall, Chichester. (d) Apr. 3.

* * *

**WOKINGHAM R.C.** (a) 10 houses, with road and paths, etc., at Charvil House Road, Woodley. (b) Eric G. V. Hives, 3 Cork Street, Reading. (c) 2 Gns. (e) Apr. 9.

* * *

**WREXHAM B.C.** (a) Extensions to Public Library. (b Borough Engineer, 31 Chester Street. (c) 2 Gns. (e) Apr. 9.

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**DARLINGTON CORPORATION.** (1) High school for girls. (3) Bussey & Armstrong, Brinkburn Road, Darlington. (4) £218,851.

* * *

**HULL EDUCATION COMMITTEE.** (1) Griffin School. (2) Bilton Grange. (3) Bristol Aeroplane Co. (Housing) Ltd., Weston-super-Mare. (4) £102,031.

* * *

**LINDSEY COUNTY COUNCIL.** (1) Secondary school. (2) Skegness. (3) J. Dutton, High Street, Skegness. (4) £69,196.

* * *

**LANCASHIRE EDUCATION COMMITTEE.** (1) St. Wilfred's School. (2) Litherland. (3) William Hall & Son, 60 Christian Street, Liverpool. (4) £202,328.

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**LEICESTERSHIRE C.C.** (1) Primary school. (2) Lutterworth. (3) Frank R. Freeman Ltd., Chapel Street, London, N.W.1.

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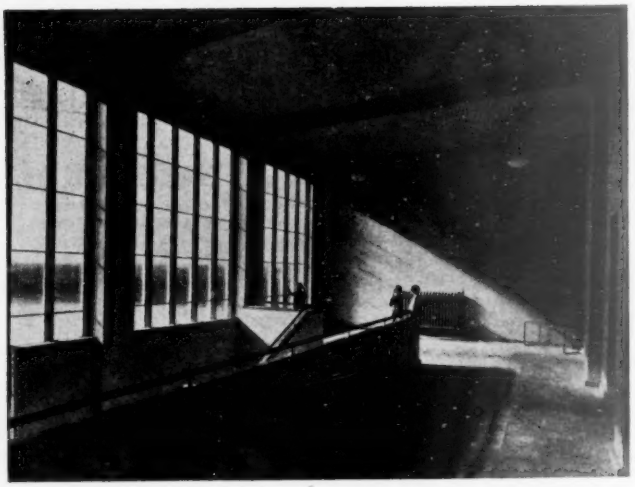

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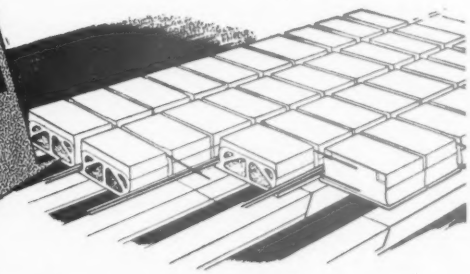

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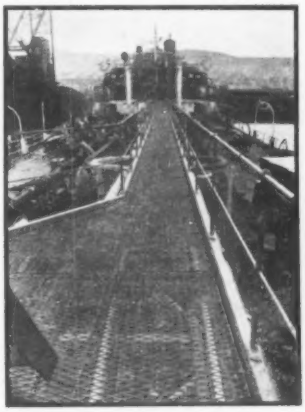

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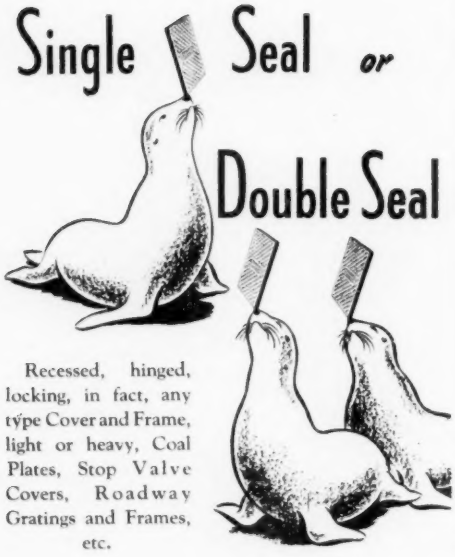

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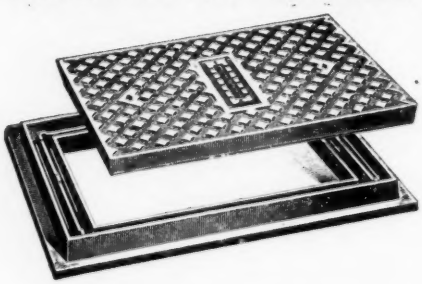

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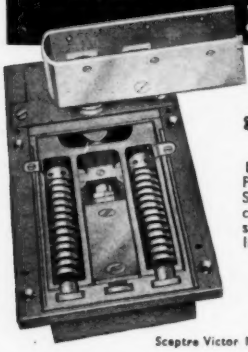

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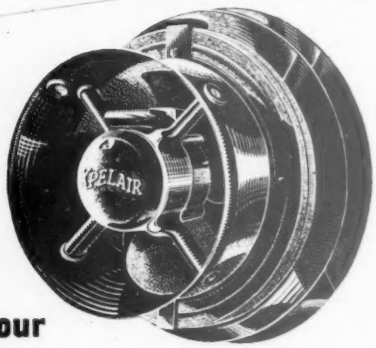


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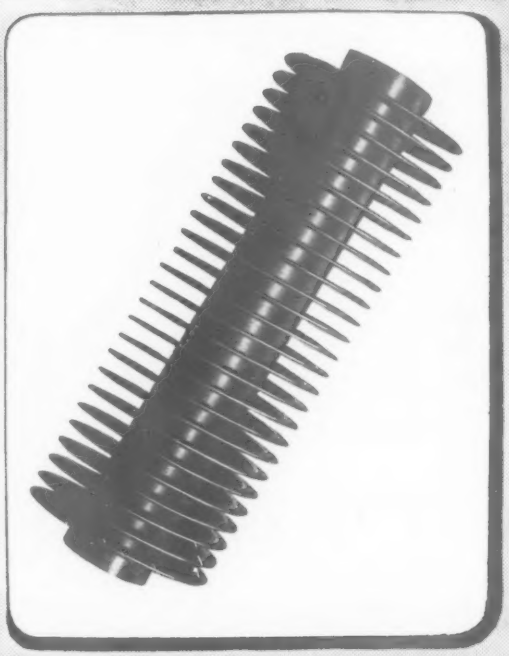

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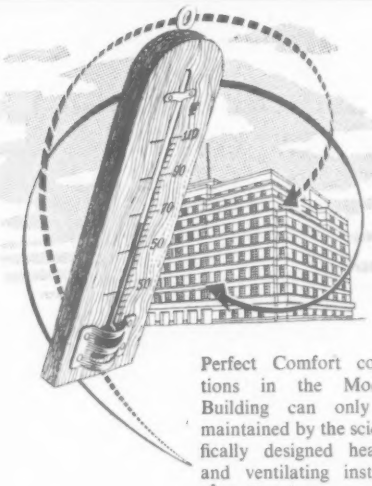

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## APPOINTMENTS

### LONDON COUNTY COUNCIL.

APPLICATIONS are invited for positions of ARCHITECTURAL ASSISTANT (salaries up to £580 a year) in the Housing and Valuation Department. Commencing salaries will be determined according to qualifications and experience. Engagement will be subject to the Local Government Superannuation Acts, and successful candidates will be eligible for consideration for appointment to the permanent staff on the occurrence of vacancies.

Successful candidates will be required to assist in the design, layout and preparation of working drawings for housing schemes (cottages and multi-storey flats) and will be employed in the Housing Architect's Division.

Forms of application may be obtained from the Director of Housing, The County Hall, Westminster Bridge, S.E.1 (stamped addressed envelope required and quote reference A.A.1). Canvassing disqualifies. (816). [0101

### COUNTY BOROUGH OF EAST HAM.

BOROUGH ENGINEER'S DEPARTMENT.

APPLICATIONS are invited for the undermentioned appointments on the permanent staff (except where otherwise stated):—

SENIOR ARCHITECTURAL ASSISTANT (Grade A.P.T. VI). Salary £595 to £660 per annum.

ARCHITECTURAL ASSISTANT (Grade A.P.T. IV). Salary £480 to £525 per annum.

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The appropriate London Weighting (£20 per annum or £30 per annum according to age) is paid in addition to the above salaries and salaries in excess of the minima of the grades may be paid according to the qualifications and experience of successful candidates.

The Council will be prepared to consider applications for a subsistence allowance in appropriate cases from persons appointed should they be unable to obtain suitable housing accommodation.

Full particulars of the terms and conditions of appointment and form of application (which must be returned by Monday, the 2nd April, 1951) may be obtained from the undersigned.

Canvassing in any form will disqualify.

H. A. EDWARDS, Town Clerk.

Town Hall, East Ham, E.6.
March, 1951. [5317

### BOROUGH OF CHATHAM.

APPOINTMENT OF CHIEF ASSISTANT ARCHITECT.

APPLICATIONS are invited for the appointment of CHIEF ASSISTANT ARCHITECT within Grade VII (£635-£710).

Housing accommodation will be made available if required.

Conditions of appointment and form of application may be obtained from Mr. H. D. Peake, M.Sc. (Eng.), Borough Engineer and Surveyor, Town Hall, Chatham, to whom completed application forms should be returned not later than Friday, 6th April, 1951. [5303

### COUNTY BOROUGH OF GREAT YARMOUTH.

APPOINTMENT OF CLERK OF WORKS.

APPLICATIONS are invited for the appointment of CLERK OF WORKS to act under the direction of the Borough Engineer in the supervision of the erection of six-storey flats.

Applicants should have a thorough knowledge of the building trade, the erection of multi-storeyed flats, of steel-frame building and pile foundations. Membership of the Incorporated Clerk of Works Association of Great Britain would be an advantage. The salary will be £12 per week.

Applications, stating age, qualifications and previous experience, together with the names of three persons to whom reference may be made, should be enclosed in an envelope, endorsed "Clerk of Works," and must be received by me not later than Thursday, 29th March, 1951.

Canvassing, directly or indirectly, will be deemed a disqualification; and candidates must disclose in writing whether to their knowledge they are related to any member or holder of any senior office under the Council. Candidates who fail to do so will be disqualified and, if appointed, will be liable to dismissal without notice.

FARRA CONWAY, Town Clerk.

Town Hall, Great Yarmouth.
10th March, 1951. [5307

AIR MINISTRY have vacancies for DESIGNER/DRAUGHTSMEN in the Designs Branch of the Works Department in the following fields: Architecture, Drainage and Water Supply, Land Survey. Vacancies are mainly in London but there are some in the provinces. If desired, consideration would be given to making appointments for London only. Salaries are on ranges up to £625 with starting pay in accordance with age and qualifications.—Applications, stating age, qualifications, previous appointments (with dates), should be sent to Air Ministry (S.2.H), Cornwall House, London, S.E.1, from which address further details may also be obtained. [5275

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### CITY OF MANCHESTER.

CITY ARCHITECT'S DEPARTMENT.

APPLICATIONS are invited for the appointment of a CLERK OF WORKS on the temporary staff of the City Architect's Department. Salary A.P.T. III, £450-£495 per annum.

Candidates should have a practical knowledge of all branches of the building trade and be experienced in the supervision of the erection and maintenance of all classes of buildings, and be capable of setting out, measuring up, keeping records, and making reports.

Application on the official form, which can be obtained from the City Architect's Department, must be returned, together with not more than three recent testimonials, to Leonard C. Howitt, Esq., B.Arch., F.R.I.B.A., City Architect, Town Hall, Manchester, 2, by Saturday, 14th April, 1951, endorsed "Temporary Clerk of Works."

The appointment is subject to the Standing Orders of the Council and the National Joint Council's Scheme of Service Conditions. Canvassing in any form is prohibited, and relationship to any member of the Council or senior official must be disclosed to me in writing.

PHILIP B. DINGLE, Town Clerk.

Town Hall, Manchester, 2.
March, 1951. [5320

### BOROUGH OF ERITH.

APPOINTMENT OF ARCHITECTURAL ASSISTANT.

APPLICATIONS are invited for the above appointment at a salary in accordance with the National Scale, A.P.T. II, commencing at £420 and rising by annual increments of £15 to a maximum of £465 per annum, plus London Area Weighting.

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The appointment will be subject to the National Conditions of Service, to the Council's Regulations governing staff, to one month's notice in writing and to the Local Government Superannuation Act, 1937. The successful candidate will be required to pass a medical examination.

Applications must be on the form to be obtained, together with a list of duties, from the Borough Engineer and Surveyor, Council Offices, Erith, Kent, and be delivered to him not later than Monday, 9th April, 1951.

Canvassing, either directly or indirectly, will disqualify.

J. A. CROMPTON, Town Clerk.

Council Offices, Erith, Kent. [5319

### BASILDON NEW TOWN.

ARCHITECTS are invited to apply for the post of DEPUTY CHIEF ARCHITECT (£1,200-£1,500 p.a.) on the staff of the Chief Architect-Planner to the Corporation, Noel Tweddell, A.R.I.B.A.

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Application should be made on the special form (obtainable from the Chief Architect) to the General Manager, Basildon Development Corporation, Gifford House, Pitsea, Essex, by 6th April. [5321

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